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CLINICS.

Clinical Lectures.

ON THE SUMMER DISEASES OF THE SKIN, AND THEIR TREATMENT.

A CLINICAL LECTURE DELIVERED AT RUSH MEDICAL COLLEGE, CHICAGO, JUNE 4, 1880.

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GENTLEMEN: I desire to describe this morning certain disorders of the skin occurring most frequently in this latitude during the season of summer, and to make some suggestions respecting their treatment. But it is proper to remark at the outset, that the occurrence of such disorders is not strictly confined to what we are accustomed to call the "heated term." With our artificial habits of life, a severe erythema may be induced by heat in midwinter equally with an attack of cholera morbus after the ingestion of unripe fruit. It is also true that there are disorders of the skin which seem to be greatly benefited by the advent of hot weather, and disappear then, to return with the early part of the ensuing season.

The title of our subject introduces us at once to questions of etiology. The summer disorders of the skin should be those influenced by solar heat, or by agencies which that heat arouses to activity. Yet ignorance, prejudice, and even the speculations of science still strive to show that these affections are real eruptions—"breakings out" upon the surface of the body of morbid humors in the fluids which circulate beneath. The woman who labours long over her washtub on a hot summer day and notices a rash upon the skin, still comes to the dispensary asking for something to "cleanse her blood." She, and those who agree with her, may be correct in their views, but, until they can demonstrate to us the exact nature of the supposed changes effected in the blood, you and I must be content with studying the more tangible sources of the diseases we have at present to consider.

Now, it is true that the inhabitants of tropical countries suffer rather more from skin diseases than do those who live in colder latitudes; but

the difference is not so great as is commonly supposed. Certainly the vegetable parasites flourish best in high temperatures; but you will see more acne-sprinkled faces in London and New York than in Havana and St. Paul de Loanda. It is really the sudden changes from cold to heat which influence sensitive skins among Americans. In some parts of our country the temperature ranges annually through 150° F. It is the skin inured to the severe cold of our Northern winter which reacts pathologically beneath the rays of the summer sun. Under these circumstances, imperfectly anointed by its natural unguent, subjected to various external irritants, and hastily summoned to a profuse diaphoresis, it responds in a series of interesting phenomena.

The stimulating influence of heat, when applied to the surface of the body, is usually first announced by an increase in the quantity of the secretion poured out by the sudoriferous glands. This secretion is designed, as you know, to accomplish several ends; and among these is the reduction of the temperature of the body by evaporation. Although sensible and insensible perspiration are not in ordinary states irritating to the sound skin, they yet may prove so to the congested or inflamed skin; and that probability is immensely increased when the sweat is chemically altered and mingled with a foul-smelling sebum. You have seen a similar difference between the action of healthy and ammoniacal urine in contact with the integument. Suppose that we add to the concurrent effects of heat and moisture, the influence of friction. Friction upon the surface of the body, either by articles of clothing or contiguous portions of skin, not only stimulates the action of the glands, but also, as I have heretofore[1] shown, actually increases the temperature of the part to which it is applied. Let us now suppose that these three important agencies coöperate in the production of their effects upon an integument long uncleansed by ablution, supported by an abundant cushion of fat, and exposed in the adventures of active toil. We shall then have a picture of the most fruitful field for the study of the effects we have in view.

We should naturally look for these effects upon those parts of the surface most exposed to the sun's rays; those best supplied with large-sized glands; those most frequently in contact with similar parts or with the clothing; and those where the disposition of the latter or the postures of the body most favour the accumulation of secretions. Such parts are the uncovered face, wrists, and hands; the little pockets behind the ears; the folds beneath the chin and at the back of the neck; the hollows about the clavicles; the axillary and ano-genital regions; the interscapular and interdigital spaces; the vulvo-femoral and the scroto-femoral angles; the faces of the thighs which are in contact superiorly; the flexures of the joints; and the larger or smaller spaces covered by the breast of the female as it lies upon the surface of the thorax. The symmetrical distribution of disease in some of these regions is a curious and beautiful illustration of the causes operating to produce it. Thus it is not rare to see an erythematous blush sweeping from the perineum down upon the inner face of one thigh, its margin sufficiently distinct to be traced with a pen, and the whole exactly reproduced upon the corresponding face of the other limb.

But there are other causes which we must not fail to consider as operative in the summer season. Many of the inhabitants of our larger cities

[1] On the Non-Venereal Cutaneous Affections, etc. Boston Med. and Surg. Journ., June 27, 1878, p. 824.

are accustomed, at this period of the year, to resort for recreation to the mountains, the seaside, and the forests, and to engage in the unwonted activities of an out-door life—health-giving to the many, but with prejudicial results to the few who at all times are prone to excesses. In one region, the shell-fish when eaten are capable of producing urticaria; the gnats and mosquitos of the favourite resorts of sportsmen in the Northwest inflict wounds which result in severe inflammation of exposed surfaces; the rays of the sun, aided by vivid reflection from the surface of water, exhibit their effects in those diffuse and localized pigmentations known as "tan" and "freckles;" and, in city or country, the improper use of alcoholic beverages may stimulate the perspiratory secretion to the verge of follicular congestion. Pedestrians in the fields and woods may come in contact with the poison ivy (*Rhus toxicodendron*), and thus beget an eczematoid affection. Coarse, dyed flannel underclothing next the skin, a truss, a suspensory bag, a waistband or corsets, worn with impunity in winter, may beget trouble on a hot summer day; and this is true of a long list of predisposing or exciting causes, which at other seasons are unappreciated or inoperative. The restless, teething baby during a hot night becomes covered with a lichenoid rash; the preputial sac of an adult male, which has tolerated well its sebaceous secretions in the month of January, will often rebel with a balanitis or herpes in July; and the anogenital region at all ages is none the less sensitive in hot weather. The opiate swallowed in one month with happiest effect, in another produces a profuse diaphoresis or an intolerable pruritus; and the diabetic, rheumatic, and malarial disorders are most often the sources of disagreeable itching when the temperature of the air is increased. A young woman, engaged throughout the winter with impunity in sewing up rents in the dusty bags of the United States mail, showed me lately an eczema of the hands which appeared during the hot weeks of the past month. The palm of the left hand and the fingers adjoining gave an exact tracing of the manner in which each bag had been seized, and the fingers of the right member showed equally well the points of contact where the needle was held and pushed. Do not forget the vivacity and pertinacity of the animal parasites under the stimulus of heat; and that the self-inflicted wounds by the finger-nail in scratching are most potent for evil when aggravated by any of the causes we are considering. Never commit the blunder of treating a patient for "prickly heat" or "disorder of the blood," who has been the bed-fellow of a colony of bugs.

Now the effects produced by these and many other agencies which might be named, whether we call them "hives," "rashes," "itches," "prickly heat," or by other popular terms, are readily assignable to pathological classes. They are either, first, affections of the skin proper, congestive or exudative; or, secondly, affections of the secreting apparatus of the skin, exhibited in congestion or exudation in and about the follicular walls, and accompanied by disturbance of function (alteration, suppression, or profusion of discharge); or, third, they are anomalies of pigmentation. All these may be coincident or successive phenomena, the result being proportioned to the intensity and endurance of the cause; the degree of temperature and the nature of the media by which it is conveyed to the skin; the susceptibility of the individual; and the extent of surface involved.

Hyperæmic conditions are all characterized by their redness, varying from a rosy pink to an empurpled hue—whence the name, erythema—

occurring in diffuse, punctate, or macular lesions (split-pea, finger-nail-sized, etc.), scarcely elevated above the level of the normal integument, and accompanied by subjective sensations of heat, tenderness, itching, smarting, or intense burning. They usually terminate in a few days by epithelial desquamation, the effete epidermis often first exhibiting numerous minute cracks or furrows, through which the red, tender, and newly formed epidermis appears.

According to Hebra, hyperæmia of a transitory character is induced in the skin by temperatures above 100° F.; but beyond 165° F. the erythema does not disappear at once when the source of the heat is removed, its subsequent history being that just described. At 212° F. there is usually destruction of the epidermis, with vesication and the formation of eschars. I need not add that the congestion is due to engorgement of that delicate plexus of bloodvessels which you can see interlacing just beneath the papillary layer of the corium when you examine a section of the skin with a microscopic objective.

When exudation occurs, it may be acute and transitory, accompanied by disturbance of equilibrium between nerve and blood-supply and muscle, resulting in the formation of evanescent, capriciously-shaped and sized wheals, pinkish and whitish in hue, inducing the well-known pricking, tingling, and stinging sensations which distinguish urticaria. Or, occurring between the apposed surfaces, it may furnish the characteristic ill-smelling secretions of intertrigo. Or the exudation may result in the production of one or several of the forms of eczema (erythematous, vesicular, pustular, papular, squamous), whose career may terminate by the mild sequelæ of desquamation and the formation of light yellowish friable crusts, or by the severer symptoms of eczema rubrum, a raw, tender, and angry looking surface, oozing with serum at numerous points, and covered here and there with its bulkier crusts.

Or, again, the congestive process may be limited to the follicles of the skin, and then we note the sudden occurrence of minute punctate or pin-head-sized papules, with profuse diaphoresis accompanied by pricking, tingling, or burning sensations (*Lichen tropicus*, "prickly heat"). When we examine these little papules with care, we discover that the hyperæmia is rather perifollicular than follicular; and that the projection occurs at the orifice of the duct. In other cases we find an abundant crop of equally small-sized vesicles upon the surface, with limpid or amber-coloured contents (*Miliaria*). In yet another class of cases, still smaller vesicles form, looking like seed-pearls scattered over the horny layer of the epidermis; minute drops of sweat being imprisoned between contiguous layers of the lifeless stratum corneum (*Sudamina*).

Among the anomalies of secretion should be named scanty, profuse, and offensive sweating (*Anidrosis*, *Hyperidrosis*, *Bromidrosis*), the latter, frequently accompanied by chemical alteration of the product of the sebaceous glands. Increase of pigmentation of the surface is a common symptom in both the congestive and exudative disorders; but in the production of both "tan" and "freckles" it is observed in uncomplicated diffuse and circumscribed forms.

You should not fail to remember, lastly, that pruritus, itching of the surface of the skin, may be purely a neurosis; and that it may be unaccompanied by any eruption save that produced by the nails in scratching. Mr. Jonathan Hutchinson, of London, has described a disease which is

named by him "summer prurigo,"[1] commencing usually at about the age of puberty, lasting for years with exacerbation in the summer season, affecting by preference the face and upper extremities, and rebellious to treatment. But I am unable to recognize from his descriptions a disease occurring in this country with features sufficient to justify its consideration as a separate malady.

Referring to the subject of treatment, we have merely time to-day to consider briefly the general principles which should guide us in the management of this list of disorders at their onset.

You surely need not be told that an observance of the simplest rules of hygiene furnishes the key to a proper prophylaxis. Attention to the cleanliness of the skin, sponge- and open-air bathing, regulation of clothing and diet, temperance in the use of alcoholic beverages, daily evacuation of the bowels, a pure air in the sleeping apartment—these are all-important. Extremely sensitive skins require protection from the sun's rays by gloves, veils, a "capote," similar to that worn by British officers in India, or by dusting the surface, as the face after shaving, with rice-flour or powdered starch. The essential oils are largely used by sportsmen in the Northwest, to protect the face, neck and hands, from the incursions of insects.

Given an inflamed or irritated skin, and the first therapeutic injunction is to eliminate the cause of the trouble, and to know what not to do. Too often patients apply to us in great distress, who, strange as it may appear, have been swallowing arsenic, the potassium iodide, and worse proprietary remedies, by the advice of physicians or personal friends, in order to "purify the blood." These all are of positive injury in the disorders we are considering, and directly tend to aggravate the complaint. It is often the case that a mere suspension of the use of these drugs is followed by immediate relief. There is no internal remedy which will "cure" these diseases. An emetic may be useful when the stomach is loaded with offending matters, as in urticaria; a cathartic is usually needful when there is constipation or impeded portal circulation, and the refrigerant diuretics, especially when administered in the popular effervescing waters, are grateful to the palate, if they do not conduce to the relief of the surface congestion. A solution of the citrate of potassium or the bicarbonate of sodium will certainly not prove harmful, if swallowed in medicinal doses by the patient who insists on swallowing something.

It is no less important to discover whether the disease has not been aggravated by topical applications, stimulated till much physical suffering has been endured, by officinal remedies or patented nostrums. I charge you to study these symptoms of aggravation. About one-half of all our patients exhibit these symptoms, and, once recognized, we are on the high road to the best of success in their treatment. Well did Huxley say, that "the people perish for want of knowledge." Know all that predisposes to, excites, and aggravates, disease, and you need nothing further of the materia medica.

The measures I am about to suggest to you should not be deemed of little importance in the local treatment of diseases of the skin because they are simple. Show me a crimson-hued, swollen, hot, and tender skin, and I will show you a *noli-me-tangere* quite equal to that which was once the reproach of surgery. Such a skin will usually refuse to be comforted by the most perfect ointment made. A local or general bath of medicated

[1] Lectures on Clinical Surgery, J. & A. Churchill, London, 1878, p. 126.

water is preferable, and this at the temperature most grateful to the surface. Remember that cold water is generally followed by a sharp and vivid reaction, that when employed it must be used continuously, and be permitted to evaporate, since water kept in contact with the skin in folded cloths is readily made to serve as a hot fomentation. Tepid and warm water baths are followed by a more or less enduring relaxation of the integument. Hebra medicates the water of the bath by pouring it, in a state of ebullition, upon flour or bruised almonds. In this country it is usual to add to each thirty gallons, about four ounces each of the biborate and bicarbonate of sodium, or a double quantity of either salt alone. It is well to squeeze into the water several times a coarse muslin bag containing a quart or more of common bran, as this imparts a mucilaginous and slightly astringent quality to the fluid. After this, the bag can be dried and used on other occasions, as the custom is in the French bathing houses. Soap is, in general, unnecessary, as the object we have in view is not the cleansing so much as the medication of the surface of the body.

Immediately after the bath the skin should be carefully and gently dried with soft, freshly-laundried towels—no harsh rubbing is permissible—and then a dusting-powder applied. Best, and cheapest too, of these is lycopodium. Observe that when I cover the surface of the water in this goblet with a thin layer of the dust, I can plunge my finger to the very bottom of the glass and remove it as dry as when it entered. There is not a drop of moisture clinging to the skin. This valuable property of lycopodium is available when it is desired to protect the skin from its own or foreign accumulations; and it has thus gained great favour among the Germans for use over the ano-genital region of infants, to the exclusion of the articles sold for similar uses in the shops. It can be readily combined with finely-powdered tannin when an astringent effect is desired.

Sometimes, however, it is desirable to make use of a dusting-powder which will supply the anti-pruritic effect of camphor; and this we can order, made of "corn-starch farina," rice flour, bismuth, oxide of zinc, and the ordinary starch of the shops. The chief objection to the starch-containing powders is their tendency to form little rolls or cakes when mingled with sweat and serum. An excellent formula, however, is that of Prof. M'Call Anderson: one ounce of starch, half an ounce of the oxide of zinc, and one drachm and a half of powdered camphor. To be of use, this should be made perfectly impalpable by sifting through millers' bolting cloth, and be kept in a wide-mouthed, stoppered vial, that the pungent aroma of the camphor, which seems to be connected with its anti-pruritic virtue, be not dissipated. A coarsely-triturated powder will decidedly irritate the skin, and patients are apt to find this out for themselves. I had lately in my charge a lady affected with severe intertrigo of the skin beneath two voluminous breasts, who sent for her powder from Italy to London, as she found her chemist there prepared it with the greatest care.

Such powders may be dusted freely over the surface, and also applied on soft, wide-meshed linen rags with which they have been incorporated. These should be well pushed up to the linear abrasion, which usually is the chief source of the secretion when folds of the skin lie in contact. Of course, when these secretions are offensive, a small quantity of the solution of chlorinated soda, or a weak carbolic acid lotion, should be used to correct the odour.

When the surface of the skin does not well tolerate the bath and the powder, it may be soothed with olive oil in various forms, and the most

grateful of these is the linimentum calcis of the Pharmacopœia, applied on the antiseptic cotton, now extensively sold in the shops.

Weak lead lotions are justly popular in the treatment of many of these cases. My colleague, Prof. Haines, suggests, on good chemical grounds, that the acetate of morphia be substituted for the opium in the useful "lead and opium wash." My friend, Prof. R. W. Taylor, of New York, has published an excellent formula for a lotion to be used over raw and discharging surfaces, containing two drachms of the liquor plumbi subacetatis; two ounces of the tincture of opium and one of tincture of camphor; and two ounces of glycerine to a quart of water. This is to be carefully and neatly applied on strips of lint, properly adjusted to the part, and repeatedly wetted. Bear in mind that glycerine is but half a fat, and will prove exceedingly irritating to broken or abraded surfaces, if not largely diluted. When added to any lotion, it should serve merely to render the specific gravity of the latter equal to that of the exuding serum, lest either exosmosis or endosmosis occur; and neither is desirable.

When a mild astringent effect is desired, or merely the application of inert absorbents to the surface, we have the ordinary black wash, or we can add the subnitrate of bismuth or the oxide of zinc to the other lotions, in the strength of one or two drachms to the pint of fluid. Among the remedies from the vegetable world may be named the infusion of the leaves of the red raspberry (*Rubus strigosus*), which is esteemed chiefly for its soothing and anti-pruritic effects.

When the acuteness of the early stages of these disorders is at an end, then, and usually not until then, can we use an ointment with advantage. The simplest and best of these is freshly-prepared cold cream, or even vaseline, which will do well when the greatly-abused benzoated zinc ointment has failed. Do not forget, however, that we can add the latter, with great advantage in many cases, in any proportion to either of the former unguents; and that, for greater stimulating or astringent effects, we have a wide range from the excellent diachylon ointment of Hebra as modified by Kaposi, to those containing mercurials and the oil of cade or the oil of white birch.

For the removal of "tan" or "freckles" from the skin of the face, my friend, Prof. White, of Boston, employs the following formula, which I have used with advantage: R. Hydrarg. bichloridi. gr. vj; Acid. muriat. dil. ʒj; Aq. ʒiv; Alcoholis, Aq. ros., āā ʒij; Glycerin, ʒj. Misce. This is applied over night, and the skin washed with soap in the morning. Care should be taken to test the susceptibility of the skin before it is too freely employed. When irritating effects are produced, the lotion is to be discontinued.

I conclude by suggesting, in the treatment of herpetic and balanitic disorders of the adult male, which are exceedingly common in the summer season, the use of vinous or alcoholic lotions, sufficiently strong to gently stimulate the mucous membrane, and rendered astringent by the addition of the sulphate of zinc or tannin. In all cases when practicable, lint saturated with the lotion should be interposed in the præputial sac. The "follicular vulvitis" of females is best treated in the same general way.

Gentlemen, you must have ere this perceived the impossibility of exhausting this interesting subject in the hour at my disposal. It has sufficed merely to enable me to give you a few hints respecting the management of the early stage of some of the disorders I have named to you. Usually, however, long before the subsequent stages are reached, we should fail to recognize them as summer diseases of the skin.

CLINICAL REMARKS ON THE USE OF THE CLAMP AND CAUTERY IN THE TREATMENT OF HEMORRHOIDS AND PROLAPSUS.

Delivered at King's College Hospital.

By HENRY SMITH,
Professor of Surgery in King's College.

Gentlemen: You have had opportunities of seeing me operate several times since the beginning of the present session on cases of hemorrhoids and prolapsus of the rectum by means of the clamp and cautery, and the case just brought before you is one which so well illustrates this particular operation that I think it well to make use of it, as it were, as the text for a few remarks on this subject.

The operation consists, as you are well aware, in drawing down and embracing the tumour within the blades of the clamp; then removing the hemorrhoid with a sharp pair of scissors, and, lastly, applying the actual cautery freely to the cut surface.

Each of these steps of the operation demands a few words from me. It is very important to isolate the tumours well, so as to compress them easily, and in some cases where the hemorrhoid runs, as it were, abruptly into the surrounding hypertrophied skin, it is well just to make a slight groove with a pair of scissors. By this means the blades of the clamp compress the growth more readily at its neck. You will have noticed also that in large tumours I use a clamp furnished with a light but powerful screw near its handles. By this means I tighten the grasp of the blades of the clamp more firmly; then, in removing the part, I take great pains not to divide the base of the tumour too close to the clamp. I leave tissue to the extent of an eighth of an inch, so as to have a fair surface for the use of the cautery. The iron is applied very carefully and very freely at a black heat, and then, all the cut surface being so treated, the blades are gently and gradually released by the screw on the clamp. In this way the pressure is taken off the neck of the tumour, and if any vessel is not thoroughly cauterized it immediately bleeds. The blades are then quickly screwed up again, and the hot iron is applied to the vessel until it ceases bleeding. Sometimes it is necessary, as in a case of huge prolapsus you saw me operate on a little time ago, to reapply the hot iron several times to the same vessel before bleeding ceases. You may, however, rest assured that with proper care you can stop bleeding from any vessel here by the use of the cautery.

Each tumour, and there are generally three or four, is treated in this way, and then, when an opiate suppository is introduced by the finger well oiled, the operation is completed. If there is much hypertrophied skin I remove a portion of it, and if the sphincter ani is very tight, I divide it, as in fissure of the rectum. I do this because I fancy in these cases there is less pain after the action of the bowels; for I find that in those cases of long-standing hemorrhoids or prolapsus, when the sphincter is very loose, the patient as a rule complains very little of pain after the action of the bowels.

The after-treatment consists in locking up the bowels by occasional opiates, and strictly dieting the patient. In the majority of cases the patient complains of more or less severe pain for an hour or two, and then it goes off. This pain is much alleviated by the application of hot water by means of a sponge. Retention of urine sometimes occurs, but not very frequently, more often in women, who generally suffer much more severely from hemorrhoids than do men. As a rule, the patient leaves the hospital in a week, the bowels being acted upon by castor oil three clear days after the operation, and then again two days subse-

quently. Sometimes blood in a coagulated form comes away with the first movement of the bowels, and frightens the patient, but it is only for the most part blood which ran into the bowel at the time of the operation and remained there. At times there may be a little arterial bleeding, but I have never once had to use any stronger measures than to apply a speculum and throw up iced water for stopping any such bleeding.

Now the advantages I claim for this operation are—that it is all completed at once; that it is eminently safe; that the after-suffering is slight, and that the period of convalescence is short. In the old-fashioned method of applying ligatures, the operation may truly be described as not completed at one sitting, for of necessity the threads are left to come away, not rarely a most tedious and painful process. I have seen the most horrible suffering for hours and days after the use of ligatures. Then, again, we may meet with those uncomfortable sequelæ as the result of the presence of foreign bodies, and the subsequent ulceration, tetanus, diffuse inflammation, and pyæmia. Several cases of death have occurred after the use of the ligature from these and other causes; one or two, I regret to say, in my own hands. Some of these cases have been made known, whilst others, especially those occurring in private, have not been heard of. Now, ever since I began the clamp and cautery treatment in this hospital, in the year 1864, I am happy to say we have not had a single fatal or really serious result; and in my own private practice, where during the same period I have operated on several hundreds of cases—some of the most severe description, and at all ages up to eighty—I have only had one death which could fairly and honestly be placed to the account of the operation itself, and this resulted from an accident which ought not to have happened, and occurred several years ago. Three other cases, it is true, died after I had performed an operation, but in these instances, all of which have been published, the condition of the patients was such that it would be very unfair to attribute the fatal result to the operation alone.

I was afraid, however, I should at last meet with a fatal result at the hospital, and this leads me to call your attention to that case of huge prolapsus in which I operated a few weeks ago. The patient was an elderly man who had a prolapsus as big as a cocoa-nut always coming down, and rendering his life a burden. He had already been operated upon twice by a hospital surgeon, but in vain. The patient was then sent to me, and, formidable as the case looked, I determined to undertake it. I applied the clamp deeply in three different directions. There was a great deal of bleeding, and I had to apply the cautery over and over again before I could stop it; and then, just as I was finishing the operation, a most untoward event occurred—severe vomiting, as the result of the anæsthetic, took place. The prolapsus was forced still further down; and before I and my assistants could return the parts, the violent action of the abdominal muscles was such that the weakened coat of the bowel gave way, and a knuckle of small intestine actually protruded through the rent thus made. I carefully returned this as soon as the vomiting ceased, and anxiously waited the result. Our house-surgeon, Mr. Newmarch, watched the patient with great care and treated him with great skill, keeping him constantly under the influence of opium, and locking up his bowels for several days. The result was not a single bad symptom of any kind. On the first action of the bowels there was no protrusion, nor afterwards; and as soon as the man was fairly recovered I removed three longitudinal folds of skin from the anus, so as further to tighten the parts. The man was completely cured. Now, the lesson this case teaches is this—not to employ an agent which could cause vomiting; because, of course, in such a terribly severe case as this it is absolutely needful to clamp deeply, and thus weaken the bowel. It was a most unlooked-for accident, not likely to occur again; in fact, it is hardly reasonable

to expect to meet with another such case for operation. I have, however, been called to cases as bad or worse, but where no operation could be recommended.

Simple and safe as is the operation by the clamp and cautery, it has gone through an ordeal of severe criticism; and although it has for some time been established as the best proceeding for hemorrhoids and prolapsus, I may refer to the objections advanced against the plan. First, it has been stated that it is a rough and painful treatment; but this argument does not hold good now anæsthetics can be used. A more solid objection is, that hemorrhage of a serious nature is liable to occur. I admit this. I am sorry to say I have known of cases where most serious bleeding has occurred, and I have been informed of two instances where death ensued from this cause; but I maintain that when such accidents occur it is in consequence of an error on the part of the surgeon. He either uses a faulty clamp or allows a vessel to recede from the blades, so that it does not get touched by the cautery, or he applies the cautery inefficiently. I became a little careless after I had operated on a great number of cases, and did not take sufficient trouble to thoroughly cauterize the vessels, and I had about half-a-dozen cases of somewhat severe bleeding; but since then—now some five years ago—I do not let a single vessel escape without being well cauterized, and I have not been troubled by hemorrhage at all. Stricture of the bowel may occur, but this is due to the too free removal of tissue, and especially of the skin about the anal orifice, and of course may be prevented. As a rule, after very severe operations, I advise the patient to use a bougie for a few weeks; this is a protection against any possible contraction.

Before concluding, I wish to say a word to you about the history of this operation. Those of you who have heard my remarks before will remember that I have always distinctly disclaimed having introduced this clamp and cautery treatment, and that I invariably give the credit of the origination of the plan to the late Mr. Cusack, of Dublin, and you will find this statement in my Lettsomian Lectures;[1] but I have always claimed what merit there may be of improving the clamp in such a way that it can be used with the greatest efficacy and safety. Hence my name is associated with this means of treatment, and in nearly every important work on surgery the instrument as now used is described and figured as mine. I have also in my Lettsomian Lectures, and in various papers, prominently drawn the attention of the profession to the subject, and, I believe, have been the means of getting the operation established as it is amongst surgeons both in this country and our colonies. I claim no other credit. I should not have mentioned this matter to you to-day were it not for the fact that an attempt has been made in certain quarters to ignore my claim to any little credit which my surgical brethren at large allot to me. The alleged dangers of this operation, too, have been spoken of in such a way as to lead one to suppose that the proceeding is attended with some considerable risk; but I need only repeat to you what I have told you before, that a fatal result has never happened in this hospital during the fifteen years in which the operation has been constantly performed, and under most adverse circumstances, and I have told you of the results of my private practice; so I must leave it to you to judge how far the operation can be considered a dangerous one. In fact, so far as I am concerned, the idea of danger as connected with this proceeding is not associated in my mind when I undertake a case of this kind, and so I honestly tell my patients when asked the question. For even in some of those desperately bad cases where the patients have been brought down to the lowest ebb by profuse hemorrhage going on for weeks or months, and where some serious result might be anticipated, the safety and success of the operation by the clamp and cautery are more marked than in instances of much less severity.—*Lancet*, March 13, 1880.

[1] Fourth edition, p. 106.

Hospital Notes.

Cystic Sarcoma of Breast; Extirpation; Neuber's Bone Drainage-tube; Good Result.

A. D., aged 37, single, was admitted into Dr. BANTOCK'S ward at Samaritan Hospital, Nov. 26, 1879. She had a cystic tumour of the right breast as large as a turkey's egg, without any glandular enlargement in the axilla. The tumour affected the outer half of the mamma. She had also an abdominal tumour, which presented all the characters of an uterine fibroid. Its connections were such as to forbid any surgical interference. The former, however, called for early operation, as the skin over the most prominent part was becoming very thin, and threatened early rupture.

The tumour when first observed, about two years and a half before, was as large as a pigeon's egg, and was situated near the outer edge of the breast. It was then tender to the touch, but not painful. It had increased most rapidly during the last six months.

On Dec. 17th the tumour was removed, with the whole mamma, by two elliptical transverse incisions embracing the nipple. Three arteries were tied with silkworm gut, and the ends of the ligatures were cut off short. Compression forceps sufficed for other bleeding points. The wound was closed in its inner half (three inches) by a continuous suture, and in its outer by interrupted sutures of silkworm gut. Before the latter were tied a bone drainage-tube nearly three inches long, about a quarter of an inch bore, and about half a line thick, prepared according to Neuber's instructions, was inserted. The operation was performed under phenol spray, but the wound was not washed out. The outer end of the tube was trimmed level with the skin, and, instead of the small safety-pin recommended by Neuber, it was secured by means of a piece of silkworm gut passed through it transversely, with ends two inches long. Next the wound, and over the end of the tube, were placed fourfold pledgets of thymol gauze, then alternate layers of thymol and carbolized gauze to the extent of probably twenty folds, and they were secured by a many-tailed gauze bandage. Over this a thick pad of salicylic wool was placed, then Lister's eight-fold dressing, and again a many-tailed bandage, with shoulder straps, also of gauze. As much discharge was not anticipated, it was thought unnecessary to follow Neuber to the letter in the matter of the dressing.

On the 18th, under the spray, the dressings were removed. There was very little discharge, and the wound looked as well as possible. The dressings were reapplied in the same order, with the exception of omitting the first bandage. Menstruation reappeared.

On the 24th the wound was exposed without the spray, and seen to be united throughout. There was not a trace of redness; only the gauze over the tube's mouth was soiled. The tube was quite fixed, flattened, and the presenting portion was dry and otherwise unchanged. The whole of the continuous suture, and two of the others, were removed. Vaginal discharge was very free.

On the 27th, with a view of ascertaining what was becoming of the tube, the wound was again exposed. The gauze was soiled to about the size of a shilling, just going through four folds. Another suture was removed, leaving the one next the opening. All the white and unchanged portion of the tube was cut away. Beyond this granulation tissue had invaded it. *In fact it had become organized.* The patient was allowed out of bed, although the uterine discharge had not ceased.

On the 30th the last suture was removed. No trace of bone could be seen,

but a flattened body could be felt occupying the site of the tube, and it was evident that instead of melting down and coming away in the discharge it had become organized in its entirety.

On January 3d there only remained a small granulating surface, less than the diameter of the tube. By the 9th it was quite dry, and the patient left the hospital on the 13th.

Remarks by Dr. Bantock.—In this country attention was first publicly called to the bone drainage-tube by Mr. MacCormac in an address delivered before a meeting of one of the Metropolitan Counties Branches of the British Medical Association, held at St. Thomas's Hospital on Dec. 3d last. Mr. Krohne had already shown me some of these tubes which he had made according to Neuber's directions, and on Mr. MacCormac's suggestion. I was then waiting for the time when my patient would be ready for operation, and I made up my mind to try the new tube so highly spoken of by Neuber, who is supported by Esmarch. Neuber cannot be said to have been in a hurry to proclaim his invention, for it was not till he had observed thirty-six cases to their termination that he published his paper.

The following represents his general conclusions. He says that when a bone tube is put into a fresh wound in a good subject, no particular change is observable within the first twenty-four hours, but soon after that time the outer surface loses its smoothness and presents a worm-eaten appearance, and the thickness of the tube seems to diminish gradually under a slow melting process. In this way its solidity is so much impaired that by the fourth or fifth day it collapses under the pressure to which it is subjected. After six or seven days it is reduced to a pulpy gelatinous mass of more or less cylindrical form, and by the tenth day all trace of the tube has disappeared, except the part which is not exposed to the action of the tissues, and which is usually to be found loose in the dressings about this period. The rapidity of absorption varies in different individuals, depending on constitutional conditions and the state of the wound. In one case of amputation of the leg (to which he specially calls attention) in a patient much weakened by long illness, and the subject of albuminuria, the tube was not absorbed in fifteen days, although the wound had healed almost throughout by first intention. In another case of a more vigorous patient, after amputation of a large part of the scrotum, no trace of the tube could be found after the tenth day. He observed that the tube disappeared quicker in cases attended with discharge than in those without. He especially claims for his method that fewer dressings are required than with the ordinary India-rubber drain, and that it produces no irritation.

As far as my case goes I think I must admit both these claims. Had it not been for my anxiety to see how the tube was behaving, instead of exposing the wound on the seventh day, I might have left it undisturbed for a whole fortnight. So perfect has the healing process been, that the skin slips freely over the underlying tissues, and the tube moves with it. This indicates the only point of difference—viz., that after a lapse of twenty-six days the tube can still be felt, apparently of its original size, but flattened. Is it an unmixed gain that it has become organized instead of being absorbed or coming away in the discharge after having served its purpose? Still, on the whole, the result is very satisfactory. The lips of the wound at the end of twenty-four hours appeared to be perfectly glued together. Throughout the whole course of the treatment the patient felt nothing of her breast wound, and I am inclined to attribute the elevation of temperature on the second and third days, when it ranged between 99.6° and 100.4°, to the disturbance in the fibroid uterus. One of her usual periods had only just ceased a few days before the operation, and the same night the discharge returned, attended with considerable pain, especially for the first

three or four days. All this time, however, the pulse was unaffected. In length of treatment this case does not compare favourably with the last case of the same kind, in which the tube was removed on the fifth day, and the healing process was quite complete by the eighth day. But of the two subjects the latter was certainly the more favourable for operation.

In the table of cases Dr. Neuber gives three cases of ovariotomy, of which two died (of peritonitis), and one recovered. The date of the first dressing in this case was the twelfth day. I do not hesitate to say at once that in this operation the bone-tube is wholly unsuitable, and that to use it is only to court disaster. In this case the principle is entirely different, and the peculiarities of the bone-tube are at once seen to defeat the object in view.

Dr. Bantock adds: Since the above was written I have again used Neuber's tube—viz., in a case of irreducible hernia of omentum through the femoral ring, in which I unwittingly performed the radical operation for hernia introduced by Professor Socin of Basle. The case was rather obscure, as at no time while she was under my observation had any intestine descended. On the 17th inst. I cut down upon the swelling, and at once saw its nature. Completely isolating the sac, I then opened it, broke down an adhesion of the omentum, and tried to return it. As it resisted reasonable efforts I applied a ligature close to the ring, and cut away the omental mass. The stump at once receded. I then put a ligature around the neck of the sac, and cut it off. Both these ligatures were of silkworm gut, and the ends were cut off short. A small bone-drain was put in, and the wound closed by six sutures. On the 19th, the blood, which had escaped from the tube, had dried up in the gauze dressing, and the wound was quite dry throughout. On the 22d there was only a slight stain on the gauze just over the tube's mouth, and I cut away the end of the tube as close as possible, for this purpose pressing back the skin, so that the edge of the skin overlapped the tube. On the 24th the skin had come together and united, and the healing was thus complete. On this day I removed the sutures. In this case also the tube was found firmly fixed at the first dressing, and its organization was even then assured. It is still to be felt under the skin. There is reason to hope that this operation will prove a radical cure, as the ring was not stretched, and the ligatured neck will form a firm and resisting plug.—*Lancet*, May 1, 1880.

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Gangrene of the Lung; Recovery.

Stephen M——, aged twenty-seven, a barman, was admitted into Dr. STURGES'S ward at the Westminster Hospital, 7th October, 1879. He had rheumatic fever when a child, but no other illness previous to the one complained of. Five weeks before admission he had been much exposed, and caught cold, complaining of cough, pain in the left side of the chest, profuse expectoration, and dyspnœa. These symptoms became more marked, and the patient also complained that his breath and sputa were very offensive, and that the dyspnœa frequently came on in severe paroxysms.

He was very anæmic in appearance, and seemed very weak, having lost flesh considerably. His breath and sputa were of the characteristic odour of pulmonary gangrene; the fetor was so intolerable as to make it most difficult to approach him, and was noticeable throughout the ward. The sputa were frothy at the surface, but had a blackish-gray layer below, the sputa having the same odour as the breath. On percussion, there was a patch of dulness over the left base behind, about three inches square, and on auscultating over this patch crepitation of medium character was heard during inspiration and expiration. The other parts of the lungs gave evidence of bronchitis.

Dr. Sturges diagnosed the case as gangrene of the lung, and ordered the patient

to be placed in a complete atmosphere of carbolic acid vapour. A tent was placed round the bed head, and vapour of carbolic acid was passed into the tent. The strength of the solution was one per cent. One drachm to half a pint of water was used for vapourizing, and then gradually strengthened.

The patient was kept in this atmosphere for five weeks; for the first fourteen days the symptoms of cough and dyspnœa were no better, but the offensive odour of the expectoration disappeared; sputa still giving evidence of pulmonary break-down. During the remaining three weeks of this treatment the symptoms gradually improved, and the patient became better and stronger, and increased in weight.

On November 12th he was examined, and it was found that the physical signs at the left base had much improved, the breathing being fairly healthy. The sputa were no longer black and offensive.

On the 20th the patient was discharged in fair health.

There was nothing to remark about the temperature; the diet was mainly milk, beef-tea, and light puddings; meat during convalescence. The carbolized vapour had evidently prevented the gangrene from spreading after the slough had been thrown off in the sputa; the lung gradually regained its normal character.—*Lancet*, April 10, 1880.

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Whooping-Cough in a Man of Sixty-six treated with Drosera Rotundifolia.

William H——, aged sixty-six, beadle, came under Dr. MURRELL'S care at the Royal Hospital for Diseases of the Chest, in January, 1879, suffering from whooping-cough. He stated that he had had it for about three months. The attacks of coughing ended up with a distinct whoop and a violent struggle for breath. He had usually six or seven bad attacks in the day. They were not accompanied by vomiting, but terminated in the expectoration of thick sticky phlegm. The cough was most violent, and exhausted him very much, and he was glad to lie down after each paroxysm. There had been no hæmoptysis, no shortness of breath, and no night-sweating. He had lost flesh a little, but this he attributed to his loss of appetite. He was hoarse, and could not lead the singing as usual. His chest was carefully examined, but nothing wrong was detected. There was no doubt about the nature of the complaint, and one Sunday morning he whooped in church, to the consternation of the congregation. He had been exposed to whooping-cough, more or less, all his life, and thought he had caught it from some of the school children. This was his second attack, for he had had it as a child. He mentioned incidentally that his wife had it when she was sixty.

He was ordered fifteen grains of bromide of potassium in an ounce of water three times a day, and this he took for a fortnight with only slight benefit. He was then ordered a one-in-ten tincture of drosera rotundifolia (*The Lancet*, August 3, 1878), in five-drop doses, every four hours, in a little water. He took this for a week, and then returned, saying that it had made him much worse. It increased the spasm and cough, and made him whoop more; he whooped as many as a dozen times in a single paroxysm of cough. It increased the expectoration too, and he begged that he might be allowed to discontinue the medicine. He was then ordered half-drop doses of the same tincture in half an ounce of water every three hours. At the expiration of a week he reported that there had been a very great improvement; the cough was less, and he rarely had more than one attack in the twenty-four hours. He slept better, and his appetite had improved. He took the medicine for a fortnight longer, when the cough had completely left him. He was quite well, and was able to sing bass and lead the choir once more.

The points of interest in the case are—the age of the patient, and the fact of the drosera having succeeded in small doses after having failed in large.—*Lancet*, April 17, 1880.

MONTHLY ABSTRACT.

Anatomy and Physiology.

Growth of the Human Hair.

1. In reference to the amount of hair produced on the head and beard in relation to time, Professor MOLESCHOTT (*Untersuch. zur Naturlehre*, Band 12, p. 187) has found by frequent cutting of the hair in an observation extending over a year on eleven persons, a maximum production of 0.28, a minimum of 0.14 grammes; the average being 0.20 gramme daily. The watery contents of the hair amount on an average to 13.14 per cent.; the loss of nitrogen in this way amounts to 0.0287 gramme = 0.0615 gramme of urea. 2. As regards the growth of the hair in relation to age and to the weight of the individual, the daily growth between 18 and 26 years of age is, on the average, 0.20 gramme; between 32 and 45 years of age, on the contrary, only 0.14. The smaller production of hair is associated with the larger body-weight, but the greater body-weight was always found associated with an older age. 3. Concerning the influence of the time of year, it was ascertained that the production of hair is stronger in the summer than in the winter. The hair has, indeed, in summer, a larger amount of water; but this explains the considerable difference only in very small part. 4. Concerning the influence of the frequency of hair-cutting on the growth of the hair, Moleschott ascertained that the ordinary notion that frequent cutting increases the production is correct. 5. Concerning the growth of the nails, in the course of a year the author produced on his hands 1.825 grammes, that is, 0.267 gramme of nitrogen, or 0.572 of urea; in another year, 2.086 grammes of nail-substance, = 0.315 nitrogen. The growth of the nails is more rapid in summer. 6. As regards the reproduction of the skin, after a boil on the volar side of the fingers, Moleschott lost a piece of epidermis which measured 75 square millimetres; it was 0.125 millimetre in thickness, and weighed 0.0227 gramme. The loss was fully recovered in 34 days. The surface of the body measures on an average 1.614 square metres. If it be assumed that the epidermis of the whole surface of the body is renewed to the thickness of 0.125 millimetre in 34 days, there is a daily loss of 14.35 grammes of epidermic substance through the unobserved desquamation. This quantity corresponds to 2.1 grammes of nitrogen, or 4.5 grammes of urea. Salkowski, who abstracts this communication in the *Berl. Centralblatt für die Medicin Wissensch.*, observes that the whole calculation arises out of the renewal observed as a sequel of a pathological process after epidermis had been removed, and gives, doubtless, too high a figure. 7. As regards the influence of disease on the renewal of the epithelial tissues; Moleschott suffered three weeks from catarrh of the bladder; during that time the production of hair and nails was diminished. 8. In his conclusion, Moleschott points out again that, by the elimination of the epidermic tissues, one-seventh of the amount of nitrogen which is found in the urine is daily eliminated.—*London Med. Record*, April 15, 1880.

Materia Medica and Therapeutics.

Acetate of Alumina as an Antiseptic.

The expense and the want of durability of Lister's carbolic gauze have led to several attempts to replace the carbolic acid by other antiseptics. Of these, acetate of alumina, which was used as early as 1827 by Gannal for embalming corpses, and which has of late been introduced into surgery by Burow, von Bruns, Billroth, and Maas of Freiburg, appears to deserve special attention. It has been largely tried in Professor Maas's wards since June, 1879, and his assistant, Dr. PINNER, gives an account of its physical properties, and of the method employed and results obtained in its surgical application at Freiburg, in Nos. 12 and 13 of the *Berliner Klin. Wochenschrift*, 1880, from which the following facts are abstracted.

The solution of acetate of alumina (for the salt is not stable in the solid form) is made by dissolving 1000 parts "colloidal alumina," prepared by the firm of Löwig & Co., Dresden, in 800 parts dilute acetic acid. The liquid is filtered after standing twenty-four hours, and contains about 15 per cent. of acetate. For antiseptic purposes much weaker solutions are required. Dr. Pinner finds that a 0.5 per cent. strength will prevent urine or meat infusion from putrefying, while 1.5 to 2 per cent. solutions will stop all movement in a bacterial liquid, as well as sterilize the bacteria, so that no multiplication of them takes place in tubes containing Pasteur's fluid, and carefully isolated. Dr. Pinner does not wish, however, to assert that the bacteria are actually *killed;* to effect this, much larger quantities of this or any other antiseptic than it is possible to use in practice are probably required, as well as exposure to high temperatures. His view of surgical antiseptics is "to create such conditions in the wound as to render the fungi innocuous, unable to cause injurious decomposition, or to penetrate the surface of the wound and enter the blood."

The method of operating with acetate of alumina as an antiseptic, in accordance with these principles, is as follows: The skin is first washed with 5 per cent. carbolic acid solution in the ordinary way, and dried. The reason for this is that acetate of alumina is not saponifiable. Carbolic acid has also been used for disinfecting the instruments, as the acetate solution is so acid that it blunts and corrodes them. For every other part of the operation the acetate of 2½ per cent. strength is alone used. Owing to the admixture of steam the actual strength of the spray which reaches the wound does not exceed 1 to 1¼ per cent.; but this answers all purposes. The acetate spray never causes anæsthesia of the operator's hands, as carbolic acid is liable to do, but it makes them rather rough. Professor Maas uses catgut for ordinary ligatures, and Czerny's antiseptic silk for atheromatous vessels or for deep-seated or large arteries. The sutures and drainage-tubes are inserted in the ordinary way. For the dressing, the wound is first covered with "protective," and then with loosely folded pieces of gauze, which are pressed firmly over and around it. The gauze has previously been soaked for a long time in 5 per cent. acetate of alumina solution, and wet compresses of the same, one and a half to two metres long and about twenty centimetres broad, four times folded, are used to keep the dressing in its place. From four to eight such compresses are generally needed, the rule being, *e. g.*, for an excision of the knee, to carry the dressing from the lower third of the leg to the upper third of the thigh. The whole is covered with gutta-percha tissue to prevent evaporation, the edges being surrounded with strips of 10 per cent. salicylated wool. To keep everything in place a calico bandage soaked in 2½ per cent. solution of the acetate is used. The dressing is changed on the first or second day after the operation,

and then only every fourth or sixth day; it has never been allowed to remain longer than the eighth day. On removal the compresses are found impregnated with the secretion from the wound, which has a sourish smell, and is rather more copious than when dry bandages are used, the moist compresses being more permeable; on the other hand, wounds and the surfaces of stumps have a cleaner look. The healing of the wound takes an absolutely aseptic course. None of the diseases which complicate wounds under the old system (*accidentelle Wundkrankheiten*) occurred in any of Professor Maas's cases. In three cases it was noticed that the acetate of alumina spray exercised an astringent effect, and checked the capillary hemorrhage from the part which has been operated on. In this respect it is superior to carbolic acid.

The acetate of alumina bandage is cheaper than Lister carbolic gauze. The colloidal alumina is sold by Löwig & Co. at forty-five shillings the hundred kilogrammes, and dilute acetic acid is also cheap. The compresses can be used over and over again after boiling and re-washing, and they are easily prepared. They adapt themselves well to any part of the body, and can be made to exert an even, elastic pressure on the wound. Eczema never occurs beneath them. Dr. Pinner gives details in his paper of a number of severe operations treated by the above method with success. The acetate has also been used by Professor Maas for permanent irrigations. Professor von Bruns, of Tübingen, first recommended it for this purpose—"severe injuries, especially compound fractures which come rather late under treatment, cases of extensive sloughing or great destruction of soft parts, or, in fact, any cases where it is difficult to apply an antiseptic dressing successfully, can be thus treated." It is best to begin with a 2½ per cent. solution, and then to reduce its strength to 0.5 per cent., which is found to be strong enough to disinfect and deodorize perfectly.—*Med. Times and Gazette*, May 8, 1880.

Medicine.

Growing-Pains.

M. Bouilly, in an article published in the *Revue Mensuelle de Médecine et de Chirurgie* and the *Journal de Médecine et de Chirurgie Pratiques*, December, 1879, studies, under the appellation of "The Fever of Growth," the attacks of congestion which occur in the bony tissue of the extremities of long bones, and which may go on to inflammation and coincide with febrile conditions connected or not with some other distant lesion. The phenomena are of various kinds. In a considerable number of cases, on the appearance of any insignificant affection, such as a slight angina or a feverish gastric disturbance, there supervenes in children a very high fever, lasting, at the most, from twenty-four to thirty-six hours, and manifestly connected with the local lesion. In addition, however, the patient shows depression quite out of proportion with the slight malady from which he is suffering; during the febrile attacks, and for the two or three subsequent days, there is, especially on pressure, a very decided sensibility over the epiphyses of the femur, tibia, and humerus; and, if care be taken to measure the child beforehand, after the attack he will be found to have grown four or six-tenths of an inch.

In another form, the fever seems to constitute the whole disease. On this point, M. Bouilly cites two cases observed by himself, in which the symptoms consisted in a series of paroxysms of intermittent fever, having in one case a tertian, and in another a quotidian type, commencing with a morning rigor, followed by heat, and terminating early in the night by copious perspiration. At the same

time, pressure revealed the presence of decided pain at the level of the great epiphyses, especially at the moment of the attacks, less marked during the intervals. In each of the children, one of whom was thirteen and the other seven years of age, the increase in growth in a week was an inch. The attacks yielded to sulphate of quinine and perfect rest, but convalescence was complicated with a condition of languor and depression, and was much more protracted than might have been expected after a week's illness in children of good constitution. Here we find a type of the fever of growth, probably connected with congestion of the epiphyses.

Analogous facts have been pointed out by other medical writers. M. Bouchut has reported the case of a child, twenty-five months old, who grew more than three inches in six weeks, being affected with remittent fever, which the author believed to be connected with this growth. Regnier has also recorded the case of a youth aged 14, who was excessively short for his age, and was seized with extremely acute pains pervading all the joints. In six months he grew more than twenty inches. The absence of fever prohibits the supposition that the case was one of acute articular rheumatism. It is very probable that the patient had a series of attacks of juxta-epiphysary osteitis, which gave rise in six months to this enormous increase of growth. M. Bouilly, also, in pointing out that these fevers of growth are caused by congestive outbreaks in the vicinity of the joints in the epiphysary zone, considers them as the mildest stage of osteomyelitis of children and adolescents.—*British Med. Journal*, May 15, 1880.

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Salicylic Acid in Acute Rheumatism.

Dr. Von Bokkenheuser contributes to the last number of the *Nordiskt Medicinskt Arkiv* an interesting paper on the treatment of acute rheumatism by salicylic acid. The following are his conclusions:—

1. Salicylic acid is a specific against acute, febrile, articular rheumatism.

2. Its essential properties consist in the power it possesses of causing the affections of the joints to disappear and the fever to yield within some few days.

3. This result is effected with equal facility in patients of different sexes and ages; at the same time the effect is the more speedy and complete the earlier in the disease the patients come under treatment.

4. Salicylic acid is not capable in any special degree of cutting short the disease; but it alters its character in such a way that the patients, after the lapse of the first few days, do so well that they no longer feel themselves ill.

5. The treatment with salicylic acid does not always prevent a relapse, even if an "after-cure" is employed; but as a rule such a relapse can be brought to yield again in a very short time.

6. It is possible, and even probable, that the treatment with salicylic acid is often capable of preventing the outbreak of acute affections of the heart and lungs; and it is certain that these, when they do arise, pass off in a milder way than they otherwise usually do. In particular, it may be laid down that this treatment almost excludes the occurrence of an attack of pleuritis.

7. Salicylic acid is capable of stopping, in the course of a few days, an acute exacerbation of a chronic articular rheumatism.

8. Against monarticular pains salicylic acid is ineffective.

9. It likewise appears to be ineffective against attacks of a febrile acute articular rheumatism, even when these are of a polyarticular and wandering nature.

10. Against rheumatic hyperpyrexia salicylic acid has no effect.

11. In the case of a very few patients there seems to be such an immunity against salicylic acid that it produces no effect upon them.

12. The treatment with salicylic acid does not exclude all other methods of treatment, such, for example, as the use of baths, protective bandages, and the like.

13. No definite contraindication to the use of salicylic acid seems to exist; but sometimes circumstances may require us to discontinue the medicine either for a time or altogether.—*Med. Times and Gazette*, June 5, 1880.

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The Spirilli of Relapsing Fever.

Dr. PAUL GUTTMANN (*Verhandlungen der Physiol. Gesellschaft zu Berlin*, No. 7, 1880) has examined the blood of more than two hundred relapsing-fever patients treated in the Berlin Barrack Hospital, and has never succeeded in detecting the characteristic spirilli of Obermaier except during the pyretic period. In one case he found spirilli motionless in the blood of a corpse thirty-six hours after death; in another they were still alive thirty-six hours after the patient's death. What becomes of the spirilli in the intervals between the relapses is still a mystery. Dr. Guttmann rejects Arndt's supposition that these bodies are not parasites, but processes emitted from the red blood-corpuscles owing to the high fever. At present, however, all his attempts to cultivate the spirilli outside the human body have failed. The blood of relapsing-fever patients also contains a number of very minute moving corpuscles, which are rather more numerous during the febrile periods than in the interval. They are not, however, peculiar to relapsing fever, but occur in many other acute diseases, and, more sparingly, even in healthy human blood. They can be cultivated in Pasteur's fluid, and appear to be certainly micro-organisms derived from the atmosphere.—*Med. Times and Gazette*, May 8, 1880.

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Therapeutic Value of Salicylate of Sodium in the Intermittent Fever of Children.

Dr. J. ZIELEWICZ, in the *Deutsche Med. Wochenschrift*, No. 41, 1879, reports 207 cases of intermittent fever treated successfully with large doses of salicylate of sodium given during the febrile period. As regards certainty and rapidity of action, however, it is inferior to quinine. To children under one year an average amount of 3.5 grammes (with a range of 3 to 8 grammes) was administered; to children of 1 to 4 years, 5 to 6 grammes were given; and to children of 10 years, 8 to 10 grammes. The treatment is less expensive than that by quinine.—*London Med. Record*, May 15, 1880.

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Tuberculosis as a Contagious Disease.

There are few names known to contemporary medical science which arrest the attention of students of pathology more powerfully than that of Professor COHNHEIM, of Leipzig. In the early part of his career, he distinguished himself by a series of remarkable discoveries, and he is now becoming widely known and appreciated as a lucid and suggestive teacher. In none of his published writings with which we are acquainted is this power of exposition more happily developed than in a small *brochure* from his pen on tuberculosis viewed as a contagious malady,[1] which has been recently published. A short account of the method by which the author attempts to harmonize the varied observations which have been recently made on this disease, by showing how they are all explained by the assumption of the truth of one central fact, for the appreciation of which medicine and humanity are indebted to the science of experimental pathology, will prove

[1] Die Tuberkulose vom Standpunkte der Infectionslehre; von Julius Cohnheim. Leipzig: 1880.

useful, if it do no more than show how much is being done, and yet remains to be done, in a fruitful and important field of research.

In the theory which was originated by Virchow, long adopted in Germany, and now largely taught in this country, it is held that a fundamental difference exists between miliary tubercle—tubercle properly so-called—and the inflammatory products found in scrofulous disease of the lymphatic glands, and in the form of phthisis called by the Germans caseous pneumonia. The latter processes are regarded by Virchow as purely inflammatory in their nature, and as differing from other inflammatory processes only in that there is neither absorption nor further development. This theory is based on certain anatomical facts, and may be conveniently termed the anatomical theory. One of the objects of Professor Cohnheim's *brochure* is to show that, since Villemin has proved that tubercle can be transmitted by inoculation, this anatomical theory has been completely shattered. The test for tubercle now no longer consists in certain qualities of colour or consistence, nor in the presence of certain microscopical elements—tests which, in any case, have been shown, during the last few years, not to have the value which had been assigned to them—but in the capacity of a morbid product, when introduced into the body of a rabbit or a Guinea-pig, to produce tuberculosis in the animal. What produces tuberculosis is tubercle, what fails to produce tuberculosis is no tubercle. Judged by this criterion, the caseous pneumonia and miliary tubercle are manifestations of one virus; and the doctrine of Laennec, which for a time had been in the shade, has now received ample confirmation. Further, the scrofulous lymphatic gland is found to contain the same poison.

For the application of this test all animals are not equally reliable. "Dogs, for example, show little susceptibility, whilst rabbits and Guinea-pigs have it in a remarkable degree. The way in which the tuberculous substance is introduced into the animal is almost a matter of indifference; the common and most convenient method of procedure is inoculation by a small incision either into the subcutaneous tissue, the pleural or peritoneal cavities, or the anterior chamber of the eye. Chauveau and others have infected rabbits by feeding them with tubercular matter, and in Munich animals were rendered tubercular by inhalation of tubercular sputa in spray. Whether there is much or little tubercular substance employed, whether it is used alone or mixed with other tissues—as, for example, pieces of lung containing tubercular nodules—is of little importance; of far greater consequence, on the other hand, is it that the substance used should be fresh and free from decomposition. The fresher it is, the less likely is the experiment to be affected by septic and similar influences, and infection is the more certain. How the infection takes place, is best seen in animals when the tubercular matter has been introduced into the anterior chamber of the eye. In this case, if the substance be absolutely fresh, the irritation produced by the introduction soon passes away, the small portion introduced becomes gradually smaller and smaller, and may even completely disappear. Then, for a time, the eye is completely clear and intact, until suddenly on the iris a smaller or larger number of minute gray nodules appear, which grow to a certain size, and then caseate, exactly as happens with human tubercle. In the rabbit, Salomonsen and Cohnheim observed the eruption usually about the twenty-first day after inoculation; in Guinea-pigs, as a rule, a week earlier. In the rabbit, also, the period of incubation is sometimes shortened to fourteen days."

It is this test that, applied to human tubercle on the one hand, or caseating scrofulous products on the other, shows that they are both caused by the same virus. All these morbid products are effective, and in the same degree. If a piece of tubercular peritoneum or cerebral membrane be introduced into the peritoneal cavity of a rabbit, typical tuberculosis, beginning in the abdominal organs,

is the result. But inoculation with a piece of lung affected with caseating pneumonia, or of a caseating testicle, produces exactly the same effect, and nothing succeeds better than a freshly excised scrofulous lymphatic gland from the neck.

Those who are convinced that all contagious virus is due to a parasite will, of course, not hesitate to believe that the tubercular poison is corpuscular, and that, in a not very distant future, this corpuscle will be demonstrated in the tubercle-nodule and in scrofulous products. Until, however, this goal has been reached, there remains no other test for tubercle than that of infection. The leading principle here, as in all infecting maladies which produce local changes, is that a tubercular or scrofulous product is generated wherever the tubercular virus is present and remains for a certain time. The chief factor, therefore, in determining the localization of the disease, is the mode of introduction into the system. Once introduced, its further extension is influenced by the conditions of the structure of the part, and takes the direction of the natural roads of the organism. Consequently, whilst, on the one hand, the course which the disease takes is very different in different cases, the eventual entrance of the virus into the circulation affords the conditions for the development of tubercle in distant organs. The influence of the point of introduction is strikingly exemplified by inoculation experiments. When a small piece of tubercle is introduced into the peritoneal cavity, there constantly follows, in the first instance, tuberculosis of the peritoneum, spleen, and liver; after inoculation into the anterior chamber of the eye, the iris is first affected; after feeding with tubercular matter, the intestine and the mesenteric glands; after the inhalation of pulverized sputa, the lungs and bronchial glands; and, when the material has been introduced into the subcutaneous connective tissue, it is the nearest lymphatic glands in which the disease first develops.

That the lungs are affected with tubercular disease in a far larger ratio than other organs shows, in Professor Cohnheim's opinion, that the poison is introduced into the human economy most frequently with the inspired air. This conception finds support, he believes, in the frequency with which the bronchial and tracheal lymphatic glands are affected in a very early stage of the disease—so much so, that an extensive tubercular pleurisy, and still more frequently advanced caseation of the glands, is found, whilst in the lungs there are only found a few nodules or a very scant amount of caseous infiltration. An analogous condition is found in the certainty and rapidity with which inhaled carbonaceous particles reach the pleura and bronchial glands. The conditions which determine whether the inhaled virus shall produce disseminated tubercle or caseous pneumonia are still unknown.

Whilst the pleura and bronchial glands become diseased immediately after or simultaneously with the lungs, the anatomical relations of the air-passages with each other and the digestive canal furnish the means for further development of the disease. So soon as a breaking down of tubercular products and consequent ulceration have taken place, a certain quantity of tubercular, that is to say, of infecting matter, must leave the lungs. This reaches the trachea and larynx, and, if it take root there, tubercle and tubercular ulceration are the consequence. Then come the pharynx, the soft palate, the root of the tongue, and tonsillar region, which are all exposed to the same influence. A certain proportion of the matter is swallowed, but the passage through the œsophagus is too rapid, and undoubtedly the acid reaction of the gastric juice too adverse to the local inoculation and further development of the organized tubercle-poison, to favour the development of the disease in the gullet and stomach, where tuberculosis is exceedingly rare. When, in consequence of the swallowing of large quantities of tubercular matter, catarrh of the stomach has been produced, the chief obstacle

to the transmission of the virus into the intestine is overcome. In the bowel, infection will most likely follow at points where the intestinal contents are longest detained; that is to say, in the neighbourhood of the ileo-cæcal valve, the lower portion of the ileum, the cæcum, and ascending colon. The upper and lower extremities of the tube are less exposed. It is easily ascertainable in what parts of the intestinal wall the tubercle is most likely to fix itself—on those points, namely, where all absorbed substances are first retained; that is to say, in the lymphatic structures, the isolated and grouped lymph-follicles. These are, in fact, as is well known, the seat of caseating and tubercular ulcers of the intestine. Simultaneously with or immediately following the development of the virus in the follicles comes the devolopment in the mesenteric glands; whilst, on the other hand, the tubercular ulcers admit the poison into the branches of the portal vein, and the liver is then endangered. How frequent is tuberculosis of the liver, every one knows who has taken the trouble to examine this organ with sufficient care in all cases of chronic tuberculosis. With this combination, consumptive disease of the lungs and intestine frequently ends, but further developments sometimes take place. The disease may enter the ductus choledochus and produce tuberculosis of the bile-ducts. More frequent and more important is transmission to the peritoneum from deep ulcers of the intestine. And the virus inhaled with the atmospheric air may take root directly in the larynx and trachea, producing the so-called primary tuberculosis of the larynx.

Whilst the tubercular disease of the digestive tube which has been described in the foregoing sketch is secondary to the affection of the lungs, there are cases in which the intestinal canal admits the virus into the system for the first time. Amongst this class of cases, Professor Cohnheim reckons advanced tubercular disease of the mesenteric glands and peritoneum, without disease, or with only a very slight disease of the lungs—a form of the affection rare in adults, but unfortunately very common in young children. The reason why young children are specially exposed to this danger may, perhaps, be found in the experiments of Gerlach, Klebs, Orth, and others, who have shown how close is the connection between the virus of the consumptive disease of cattle and that of human tuberculosis, and have further proved that the virus from the diseased cows is contained in their milk. Whether the milk of tubercular women contains the virus does not seem yet to have been investigated; but, with the well-known prevalence of tuberculosis amongst cattle on the one hand, and with the widespread prevalence of the habit of bringing up children on cow's milk on the other, an explanation of the frequency of primary consumptive disease of the intestines is ready to our hand. Perhaps the influence of food in producing tubercular disease has even a wider extent. The question may at least be entertained whether all the so-called scrofulous inflammations of the lips, mouth, and pharynx, and especially the caseating swellings of the lymphatic glands of the neck, are not due to the direct inoculation of the tubercular virus contained in food, and more especially here, also, in infected milk.

Professor Cohnheim's remarks on uro-genital tuberculosis are very suggestive. Direct infection from one sex to the other, as by syphilis, although not impossible, is scarcely to be expected. If the virus from tuberculosis of the uterus ever is transmitted *in coitu* to the male urethra, or, perhaps, what is not so unlikely, if a man with tuberculosis of the lungs or other organ can transmit the tubercular virus to the genital mucous membrane of a woman, such cases must still be very exceptional. As a rule, uro-genital tuberculosis is a disease of excretion. The virus, from whatever source it has entered the blood, is excreted by the kidneys, and doubtless, like cinnabar particles, oil-drops, milk-globules, and bacteria, through the glomeruli. It by this means gets access to the urinary passages, and,

on whatever point it gets a hold, tuberculosis develops. Most frequently, this takes place in the open canaliculi of the pyramids; but the disease may develop also in the pelvis of the kidney, in the ureter, and the bladder, and even in the prostatic portion of the urethra tuberculosis may occur. It may cross in the bladder to the other ureter, and ascend to the other kidney; more frequently, however, it is the urethra that is attacked. In the male, the virus attacks the prostate, thence passes by the *ductus ejaculatorii* to the seminal vesicles, and onwards to the vas deferens, the epididymis, and testicle, but it can also pass directly where the ureter and the vas deferens cross. In the female, the anatomical arrangements of parts renders the route by the urinary passages very improbable. In the great majority of cases, the parts affected are the Fallopian tube and the uterine mucous membrane, the virus entering the tube from the peritoneum, which is scarcely ever found free from tubercle in genital tuberculosis in the female.

Although analysis shows that uro-genital tuberculosis is scarcely ever the primary outbreak, this cannot be said of all the parts where tubercle is localized. In meningeal tuberculosis, there are cases, especially in children, in which the usual deposits in the lungs or glands are not to be found. How, in such cases, and even in those in which the deposits in other organs are present, is the transmission of the virus to the meninges of the brain to be explained? Dr. Cohnheim is in such instances disposed to accept Weigert's explanation, who has suggested that the poison gets access to the membrane of the brain from the nose, passing through the foramina of the ethmoid bone.

Still more difficult of explanation are cases of tubercular disease of bone and fungating tubercular disease of joints, occurring in individuals in whose other organs no tubercular deposit is to be discovered. Although in most such cases the development of the local disease is traced to an injury, yet it is not to be supposed that an injury can beget the tubercular poison. Professor Cohnheim conceives it to be possible that, in such persons, the virus is already circulating in the blood, and that, with the exudation which follows the injury, the poison leaves the bloodvessels and engrafts itself in the tissues.

As a rule, the tubercular poison is not spread through the medium of the circulation, although in favourable instances this occurs; and metastatic tubercle, comparable to the most developed forms of metastatic inflammations and tumours, is sometimes found. When we add to this mode of infection the direct transmission from the peritoneum to the spleen, through the lymphatics of the diaphragm to the pleura, from the pleura to the pericardium, etc., we need not wonder at the number of organs that are sometimes found affected with tuberculosis.

In explanation of instances of acute miliary tuberculosis come the cases described by Ponfick, in which, as a cause of the contamination of the blood with large quantities of the poison, tuberculosis and caseous infiltration of the thoracic duct were found. A more frequent cause, however, of this rapid form of the disease is tuberculosis of the bloodvessels of the lungs, instances of which are recorded by Weigert. A local tuberculosis of the pleura, bronchial glands, or mediastinum has extended into the wall of a pulmonary vein, and a large surface of caseating tubercular substance has projected into the lumen of the vessel. In the light of these discoveries, acute miliary tuberculosis loses much of its mystery.

When the chronic nature of scrofulous affection of the lymphatic glands, and the immunity to the general health that often follows it and scrofulous disease of the joints, are compared with the rapid and deadly course of acute tuberculosis, it may seem extraordinary that they are all attributable to the same poison; but inoculation of rabbits shows that they all produce the same disease—a pure tuberculosis. In endeavouring to account for the comparative innocence of some classes

of cases, it must not be forgotten that the human organism may even overcome entirely the poison. Tuberculosis can heal. Pathological anatomy has long known cretification and cicatrization after tubercular deposit and ulceration. Professor Cohnheim, assuming the error of the dualistic theory of syphilis, compares the localization of tubercular affections with cases of syphilitic infection in which there is no manifestation of disease further than the nearest lymphatic glands. Individual differences in the behaviour of the organism which has been infected by tubercle are seen even in inoculated rabbits. When equally large pieces of the same caseating lymphatic gland are introduced into the peritoneal cavity or into the anterior chamber of the eye of a number of Guinea-pigs or rabbits, the first outbreak of tuberculosis takes place at about the same time and in the same manner in all of them, but the further progress shows the greatest imaginable diversities. One animal succumbs after five weeks, and, on examining the body, nodules and caseation are found in almost every organ: the peritoneum, liver, spleen, lymphatic glands, the lungs, vascular walls, etc. A second lives over two months; a third, three months, and longer; in another, not only the eye but the lungs are almost completely filled with tubercle; in another, the respiratory organs are almost entirely free, whilst the abdominal organs are extensively affected; in a sixth, the eye is completely destroyed by caseous panophthalmitis, whilst the animal is otherwise perfectly healthy, is not emaciated, eats well, and is strong and lively; and when finally, after many months, it is killed, tubercle is found nowhere except in the eye.

Professor Cohnheim will not have it that the different powers possessed by individuals of resisting the tubercle poison are due to the presence or absence of a phthisical or consumptive habit of body. The so-called consumptive habit of body has nothing to do, he believes, with a facility for receiving the virus, but is a product of the disease. Individuals with this phthisical habit of body are not specially predisposed to tubercle, they are already tubercular. In their case, the disease has been either acquired in early life or has been inherited. That tuberculosis is hereditary is too well known to require to be more than stated; but, translated into other language, that means nothing more or less than that the tubercle-virus can be transmitted in the semen and in the ovum: whether it can, like the virus of smallpox, be transmitted to the fœtus through the placental circulation, remains yet to be learned. The only difference in this respect between it and the syphilitic poison is that, while the latter manifests itself in the offspring before or soon after birth, in the case of the tubercle poison the development takes place at a later period.

Thus, in the whole history of tubercle everything is due to the special nature of the poison and its effects. According to the present manner of looking at the subject, every man is tubercular in whose body the tubercular virus has taken root. There is, accordingly, no predisposition for tubercle any more than there is a predisposition for syphilis, although some persons are more easily infected than others. Nor is there any constitutional predisposition that causes hyperplastic or inflammatory products to caseate like tubercle instead of being absorbed or changed into connective tissue, but only those pathological products undergo the specific change which are already the product of the tubercular virus. Other than this, there is nothing in the whole course of tuberculosis wherein there is a difference in principle between it and other diseases arising from local infection. Not even the fever is pathognomonic.

The summary which we have given of Professor Cohnheim's views, and as far as possible almost literally in his own words, will, we hope, give some idea of the nature of one of the problems that have been for the last few years earnestly engaging the attention of pathologists, and will also indicate the line of observa-

tion and investigation that inquirers are now following in endeavouring to acquire a fuller knowledge of the nature of tubercular disease. The small *brochure* on which we have so freely drawn, well merits the attention of all who are engaged in the active practice of medicine; and as this is hardly possible so long as it is only accessible in the original German, we would fain hope that some competent pen may translate it in its entirety.—*British Medical Journal*, May 8, 1880.

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Note on a Case of a Severe Attack analogous to Gastric Vertigo.

In an interesting communication on this subject, Dr. JAMES RUSSELL, of the Birmingham General Hospital, makes the following instructive remarks:—

There are few forms of disease in which clinical phenomena illustrate in a more interesting manner the results afforded by the minute dissection of the nerves, characteristic of the anatomy of the present day, and the relations held to one another by certain nerves in their ultimate distribution, than that large and curious group of cases which have vertigo for a leading symptom. The explanation of the phenomena presented by Menière's disease, which is based upon the influence exerted on the semicircular canals in directing the equilibrium of the body, is in striking agreement with the observations made by the late lamented Lockhart Clarke, in his laborious dissection of the medulla oblongata, reported in the *Philosophical Transactions* for 1868. It is there explained that the outer and inner auditory nuclei are derived mainly from the gray matter of the restiform body and of the posterior pyramid (the restiform and post-pyramidal nuclei); and, further, that one division of the root of the auditory nerve (the anterior division) may be traced to the superior vermiform process of the cerebellum.

With this demonstration by Dr. Clarke, of the connection between the central organs of hearing and the cerebellum, may be connected the suggestions of Dr. Hughlings Jackson as to the office held by the cerebellum in directing the automatic movements of the muscles and limbs, and especially in maintaining the equilibrium of the body, which are epitomized in the *Medical Times and Gazette*, October 26, 1878. But the group of cases to which this explanation applies has been largely extended by Dr. Woakes, who has brought the well-known cases of stomach vertigo within the same category, although in these cases the auditory apparatus, central and peripheral, is itself quite free from disease. Altered circulation within the labyrinth, and consequent compression of the endolymph, constitute the basis of Dr. Woakes's explanation; and he refers, in confirmation, to the relations which are effected in the inferior cervical ganglion, between certain afferent nerves from the stomach and the vaso-motor branches of the sympathetic present in the vertebral plexus. (*Am. Journ. Med. Sci.*, N. S., vol. lxxv., 1878, page 419.) But the nervous connections which subsist in the inferior cervical ganglion are shown by Dr. Woakes to comprise, in addition, the inhibitory nerve of the heart, besides the vaso-motor plexus of the vessels of the arm: hence, by a similar explanation, other cases come to be included, in which the symptom of vertigo has not been present, but in which the phenomena point rather to cardiac failure as the chief cause of the derangement. In not a few of these last-mentioned cases, the patient talks of being giddy, but, on inquiry, it is found that true vertigo has never been experienced. In other cases, again, a mixed condition prevails, in which it is difficult to apportion the relative responsibility between the heart and the equilibrating apparatus.

But, entirely apart from the interest attaching to these anatomical details, the explanation of attacks such as those to which I refer has much importance by removing the case from the dreaded category of epileptic attacks, and placing it

under a more hopeful aspect. It is true that, occasionally, the true vertiginous disorder is so intense that there seems little to choose between it and true epilepsy. A case of Menière's disease is described by M. Charcot (*Le Progrès Médical*, December 11, 1875), in which the patient was restricted to the most absolute stillness in the recumbent position; still, as a rule, the cases now in question have a more cheerful look-out, and, at the worst, are without some of the most dreaded results of confirmed epilepsy, viz., loss of mental control. The diagnosis, however, is sometimes not easy; and I have met with several cases in which the more unfavourable conclusion had been arrived at. It is with reference, more particularly, to the last-mentioned view of the subject that I insert a brief note of the following case; simple as the symptoms appear, when a full report had been obtained, the derangement was so severe for two or three days that, having nothing but the present condition before us, the diagnosis shifted between epilepsy and meningeal hemorrhage. The history subsequently obtained from the patient made the matter clear.

J. B., a healthy-looking man, with gray hair and spare habit, was brought to the Birmingham General Hospital, having been "taken in a fit." It was afterwards found that he had been subject for the last two years to attacks, of which the only account he could give was, that they began with violent belching; then what he thought was the wind came on, and seemed to go all over him, rendering him tremulous, making his head very queer, and causing him to feel much difficulty in keeping on his feet. He had never been rendered helpless by the attack, nor had he lost consciousness until the present occasion, when the unconsciousness was only partial, though, when seized in the street, he had felt great fear as to his ability to reach his destination. He had never staggered, nor been conscious of giddiness. The attacks were brief, though some had lasted for a quarter of an hour. He was always relieved by a small dose of brandy. Sometimes, the attacks had occurred in the night, and then he had been compelled to arouse his wife, in order to get the dose of brandy. He had been a healthy man, excepting that some time ago he had indigestion, attended with pain across the chest. He was placed on milk diet, and soon recovered. He was, however, very morbidly impressible. His habits had been strictly temperate. A certain degree of rigidity in the radial arteries was the sole evidence of fault in his physical organization. His optic disks were healthy. The commonest cause of the attacks was long abstinence from food; but the most certain means of inducing them was afforded by a meal of tea; he had been compelled in consequence to substitute cocoa. On the morning of his present attack, he had had tea for his breakfast. He was engaged in emptying boats, when he suddenly cried out that "he was bad;" he did not fall, but was helped into the hut near the boat, and, having had some brandy, was conveyed to the hospital. In the out-patient room, Dr. Simon found the patient unable to stand, and, suspecting that intracranial hemorrhage had occurred, sent him into the wards. That was about 10 A. M. Dr. Malet, the house-physician, found the patient sitting on a chair, having, every few minutes, attacks of fearfully violent eructation, effected with a loud noise; during the intervals of belching, the man was only half conscious; he could not be made to reply to any question, and hardly to protrude his tongue, which was very furred. After a bath, he had an attack of apparent unconsciousness; he then lay on his back, almost like an apoplectic; the pupils were dilated, and feebly sensitive to light; respiration was stertorous; the cheeks were blown out and drawn in with respiration. The face was dusky, and there was profuse perspiration. The pulse was very soft and full, and was accelerated. It was some hours before he recovered from this condition, and he was not fully himself until the following morning; for two or three days he appeared dazed and confused. His recovery

was speedy and complete. He had only an imperfect recollection of what had taken place; he remembers being conveyed to the hospital and being placed in the bath, but there his memory becomes at fault. The attack just described happened on December 1st of last year. On March 6th he visited the hospital in perfect health. He had been taking liquor strychniæ.—*British Med. Journal*, May 15, 1880.

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Alterations in the Alimentary Tract in Pulmonary Consumption.

Dr. Luigi Mazzotti (*Bulletino delle Scienze Mediche*, February, 1880) continues from the preceding number his researches on the changes in the digestive tract, which occur in pulmonary consumption. Out of fifty cases, he found ulceration present more or less in thirty-seven. (See *Monthly Abstract*, April, 1880, p. 351.) In one case only did he find tubercles. In twelve cases there were no changes whatever. In nine, however, of these the pulmonary lesions were comparatively slight, and were associated with other and more or less important changes. As regards the situation of the ulcers, the author divides them into those (*a*) where one part only of the digestive tract was invaded; this was so as regarded the small intestine in eleven cases and as regards the large in five; (*b*) where two parts were involved, viz., in eighteen cases, both the large and small intestine, and in one case the pharynx and small intestine; (*c*) where three parts were involved, viz., in one case the stomach and small and large intestines; (*d*) where four were involved, viz., in one case the tongue, pharynx, large and small intestine. In all these positions the morbid process had commenced with tumefaction of the lymph-follicles, followed by ulceration, which spread from the mucous membrane to the subjacent tunics. In the case of ulcers of the stomach, the only lesions present were those referable to ordinary catarrhal inflammation. In all the cases examined tubercles were found, with varying frequency and of varying distances from the patches of ulceration. Subserous tubercles were found in one case, in which the typical lesions of phthisis were wanting. Tubercles of the mucous membrane without ulcers were found in one case of phthisis, and in a case of cancroid of the scrotum. He concludes from these researches that it is not perfectly correct to speak of "tubercular ulcers of the digestive tract" as symptomatic of pulmonary phthisis or tuberculosis. Tuberculosis and tubercular ulceration of the intestines are not synonymous expressions.—*Lond. Med. Record*, May 15, 1880.

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Albuminuria.

A new and very simple method of investigation has been introduced for the study of the place of origin of albuminous exudations. It consists in causing the rapid coagulation of the albuminous elements by heat or other means, and so fixing them for future examination. The first to make use of this method was Perls, and it has since been adopted by Posner, Ribbert, and Litten. The method commonly employed has been the quick coagulation of the albumen by heat. This fixes it in the localities in which it existed during life, whereas other modes of hardening, instead of doing this, have the disadvantage of extracting it. Boiling water hardens the fragment of tissue in a few minutes; its elements present no change; the chemical reactions with colouring agents are the same; and the fragment can be preserved in alcohol or chromic acid fluids, with the sole difference from uncooked preparations that instead of the spaces being empty they are seen to be filled with coagulated, clear, finely granular albuminous masses. These are so striking that Posner asserts that no examination of a tissue infiltrated with an albuminous fluid can be regarded as

exhaustive which is not controlled by this method. Applicable to various investigations, it is especially valuable in the examination of the kidneys. The slightest degree of albuminuria can, the same writer asserts, be demonstrated anatomically by this method with certainty. The transuded albuminous masses can be fixed both *in statu nascenti*, and after exudation. They are seen in characteristic aspect in the capsules around the glomeruli, and thence can be traced into the urinary tubules. When the effusion is not merely from the glomeruli, but also from the capillaries around the tubules, it can be seen between the membrana propria and the displaced epithelium. In the large white kidney, for instance, the naked-eye appearance is seen, in preparations by this method, to depend chiefly on distension of the capsules and urinary tubules with albuminous fluid.

The information which this method supplies regarding the translucent fibrinous cylinders is of especial interest. Some facts have been adduced to prove that the tube-casts arise by transformation of the epithelium of the tubules, but the results obtained by "cooking" suggest the opposite conclusion. Even in the human kidney, in which the process is complex, distinct transitions are met with between albuminous and homogeneous masses. Posner found that, three days after ligature of the ureter, the kidney was distended and spotted with hemorrhages, and the examination by this method shows that the condition is due to large quantities of exudation, partly serous, partly sanguinolent, partly in process of transformation, in homogeneous masses, and situated in part within the tubules.

Litten found that if the renal artery is ligatured, the kidney in two hours is intensely congested with serous exudation, which, after the ligature is removed, and blood allowed to flow through for twenty-four hours, comes away as tubal cylinders. Chromic preparations show abundant exudation, inclosing cells, and the early stage of the formation of tube-casts can be traced as a fine network of fibres (due to the precipitation), and visible first close to the cells. From this and other experiments, by producing venous obstruction, Posner concludes that the formation of tube-casts may be regarded as independent of cell-destruction.

The subject has lately been reinvestigated, after the same method, by Litten. He finds the methods of coagulation by heat and by strong alcohol give equally satisfactory results. Having first satisfied himself that, in the animals experimented on (rabbits), the capsules around the glomeruli did not contain albuminous exudation, he tied the renal vein for two hours, and found throughout the whole cortex the capsules raised by coagulated albumen, which could be traced, in some cases, as far as the commencement of the twisted tubules. In other cases a number of red blood-corpuscles were found between glomerulus and capsule. The vessels themselves seemed to be intact, uncompressed. The epithelium of the tubules was normal, but within the tubes there was, in many places, the same material as filled the Malpighian capsule.

In another series of experiments the renal artery was tied for two hours. The structure of the kidneys was everywhere intact. Within the capsules was the same albuminous material, but in somewhat smaller quantity. Much more intense changes were found when the artery had been tied for a time, and then the blood allowed again to flow. The exudation within the capsules was much greater, so as to press the vessels away from them, and it extended into the tubules throughout their entire extent, the epithelium, however, within them being intact. The epithelium of the capsules was much swollen, and partly separated by the exudation.

It must, therefore, be regarded as certain that in mammals the albumen transudes at the Malpighian capsules—a fact which Nussbaum first demon-

strated to be true of the frog. The question arises under what physiological or pathological conditions may the albumen transude in this situation? The transudation, Litten thinks, occurs under conditions which have this in common—that the renal vessels undergo a transient dilatation of their calibre. He believes that after ligature of the artery this dilatation occurs when the blood is allowed to flow. Thus he explains the occurrence of albuminuria after section of the vaso-motor nerves, and not after section of the secretory nerves of the kidney, and also its occurrence after some brain injuries. In all these varied states he can see only one common character, the dilatation of the vessels, and the consequent retardation of the blood-current through them. In acute inflammation he attributes the escape of albumen to the same mechanism; in chronic inflammation no doubt changes in the wall of the vessel occur. Litten, from his experiments, agrees also that the exudation of albumen is probably not confined to the glomeruli, but takes place also in the tubules.—*Lancet*, March 20, 1880.

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Treatment of Prurigo by Pilocarpine.

From the observation of the fact that sufferers from prurigo feel relief when the secretion of the sudoriparous glands is active—as, for example, in summer—O. SIMON (*Allgem. med. Centr. Zeitung*) has been led to try the preparations of pilocarpine, and of jaborandi itself, in this distressing condition. A very numerous series of trials have persuaded him of the beneficial action of this means of treatment. In adults he uses a subcutaneous injection of pilocarpine, or prescribes a syrup of jaborandi. The patients, soon after the administration of the medicine, are enveloped in blankets for two or three hours. In patients suffering from psoriasis the perspiration is very scanty, while in pruriginous patients it is very abundant. The effects of this mode of treatment were, abatement of the accustomed sense of pruritus, softening of the skin, and diminished tendency to relapse. In general the case did not last longer than a fortnight, and in very severe cases three weeks.—*Dublin Journal of Med. Science*, April, 1880, from *Lo Sperimentale*, Gen. 1880.

Surgery.

Extraction of Metal from the Vitreous Body by the Magnet.

Dr. J. HIRSCHBERG (*Berlin. Klin. Wochenschrift*, 1879, No. 46) brought the following case before the Berlin Medical Society on the 15th of October last:—

A lad sixteen years of age, when working in the smithy with his father, on the 11th September, at 8 A. M., suddenly felt that his right eye had been hurt and its sight dimmed. Having travelled six and a half hours by road and rail, he was seen by Dr. Hirschberg at half-past 3 P. M. There was a wound in the sclera, two and a half millimetres in length and one millimetre and a half above the top of the cornea, presenting some clear vitreous humour between its lips. The cornea was plaited vertically. It was at once presumed that a foreign body had penetrated into the eye. The eye having been bandaged, thorough rest in a darkened room was prescribed. In the evening, the sight was said to be much improved; the wound was closed; the cornea was clear; the aqueous humour transparent; the iris free; the pupil moderately dilated, and egg-shaped, with the point upwards: the iris was evidently dragged up to the wound, or adherent

to the inner aperture of it; no prolapse, and normal reflexion from the pupil. A dark thread was seen in the vitreous body, tapering straight downwards from the wound. On the patient being made to look down, a pretty large piece of iron came into view, some distance behind the lens, in the lower part of the vitreous body, black, irregular in shape, sharp-edged. The optic nerve and retina were normal.

The state of things being unaltered the next morning, and not only the eye itself, but even its fellow, being thought to be in danger, the following operation was resorted to: Thorough anæsthesia having been induced, a semicircular conjunctival flap was formed inwards from the intended line of incision, and reflected back over its base towards the temple. The retractor was now inserted, and the eye, by an assistant with forceps, turned inwards as far as possible. A meridional incision four millimetres in length was made through the whole of the membranes by slow sawing movements with von Gräfe's cataract-knife behind the ciliary body in the direction of the equator, the edge of the knife being turned towards the latter. Vitreous humour showed in the wound, but did not escape. Gentle pressure on the inner lip of the wound having proved unavailing, an electro-magnet, resembling in shape the arm of a curved iris-forceps without teeth, was inserted in the wound, with its point turned towards the sclera. As no effect was obtained, the magnet was withdrawn and the incision lengthened to seven or eight millimetres with scissors. The magnet was inserted as before, only a little more deeply, and so twined as to bring its point nearer to the lower vertex of the equator of the bulb. On cautiously withdrawing the magnet, it was now found to have caught hold of a black splinter of metal, which issued with it from the eye. A pad of cotton was gently pressed upon the eye, the fading anæsthesia fully re-established, the conjunctival flap re-turned over the incision and fixed by two sutures. Both eyes were properly bandaged, and the patient was lifted into his bed. The fragment of metal was three millimetres by two by one millimetre in thickness, free from rust, with sharp and irregular edges, one side somewhat convex, the other plane, and weight twenty milligrammes.

The next day, the eye was free from irritation, T — 2, the cornea slightly plaited, the pupil contracted. On the second day, a drop of atropin solution was applied; but it was not before the evening of the third day, when the eye was able to make out the time on an ordinary watch, that the pupil became dilated. The refracting media were now found clear, and the scleral cicatrix left from the operation could be clearly distinguished. On the fourth day, the sutures were removed, and a clear bead of vitreous humour was still to be seen at the point of the sclera where the metal had entered. About a fortnight after the operation, the cicatrix was complete, the conjunctiva still a trifle swelled over the incision. The small thread in the vitreous body then still observable gave way in another fortnight, when the patient was discharged. The author goes on to indicate the exact details of the appearance of the fundus, and the visual field, which are both represented by figures, surveys the literature on the subject, in which Dr. McKeown, of Belfast, is assigned the place of honour, and winds up with a description of the magnet employed by himself. — *British Medical Journal*, May 22, 1880.

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Case of Complete Amaurosis from the Use of Salicylate of Soda.

Dr. Francisco Gatti (*Gazzetta degli Ospitali*, February 29, 1880) reports a case of sudden and complete amaurosis, which lasted ten hours, and was induced by the medicinal use of salicylate of soda. The patient, a girl aged 16, was suffering from acute articular rheumatism, for which 12½ grains of the drug was prescribed every hour during ten hours. After taking this amount the articular

pains were relieved, but the patient was seized with deafness, noises in the ears, and complete blindness. The pupils were widely dilated, and the sclerotic and cornea on each side highly sensitive. After perception of light had returned, the mydriasis still continued. The ophthalmoscopic examination generally gave negative results. Neither the urine nor the saliva yielded the characteristic reaction of salicylic acid in presence of ferric perchloride. The ocular symptoms lasted in all about ten hours, but left no permanent impairment of sight.—*London Med. Record*, May 15, 1880.

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Transparent Cysts of the Eyelids.

YVERT sums up his conclusions (*Recueil d'Ophthalmologie*, Feb. 1880) as regards these growths as follows: 1. A peculiar form of cystic tumour occurs on the eyelids, but it is decidedly rare; it seldom attains the size of a bean, and always contains a perfectly limpid fluid. 2. The most striking and constant symptom in these tumours is their transparency. 3. They have nothing in common with hydatid cysts, and are totally distinct from them. 4. Their point of origin is not, as might be supposed, in the sudoriparous glands, but the sebaceous follicles, the hypertrophied walls of which secrete a serous fluid. 5. The best treatment consists in the excision of a portion of the follicle, and cauterization of the fundus of the *cul-de-sac* with a crayon of nitrate of silver.—*London Med. Record*, April 15, 1880.

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Deaf-Mutism.

M. BOUCHERON has lately read a paper at the Paris Academy of Sciences on a mode of treatment of certain infantile cases of deafness, or deaf-mutism. The cases to which he referred are those arising from naso-pharyngeal catarrh, causing the mucus of the Eustachian tube to swell and stop the passage; the stirrup-bone, ere long, being, through pressure of external air on the tympanum, made to press strongly on the liquid of the labyrinth, injuring the acoustic nerve. M. Boucheron gives chloroform to the child, and practises catheterism, insufflation of air, and pharyngeal cauterization with a brush dipped in iodine solution.—*British Med. Journal*, May 8, 1880.

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Adenoid Vegetations in the Naso-Pharynx, and their Treatment.

Another method of removing adenoid vegetations in the naso-pharynx has been added by LANGE (*Monatschr. für Ohrenheilkunde*, Feb. 1880). Dr. Lange, formerly assistant to Dr. Meyer of Copenhagen, whose work on this subject is well known, thinks that in treating these growths it is practically only necessary to regard those situate on the roof and upper part of the posterior wall of the pharynx. He relies almost entirely on digital examination for the purpose of diagnosis in the first instance. After removal of the greater portion of the growths, the rhinoscope comes into play. Following all the more recent methods, the author recommends removal of the growths from the mouth, and uses for this purpose a ring-shaped knife, attached to a stem suitably bent. With this instrument, the author removes all the growths at one sitting, and subsequently cauterizes the naso-pharynx about six times with solid nitrate of silver, at intervals of five or six days. The removal of the growths is frequently followed by considerable temporary swelling, which renders the application of the nasal douche impossible, and great care is therefore necessary under these circumstances to prevent the fluid from entering the ears. The author has never seen any bad symptoms in the ears result from the operation. He attributes to Voltolini the merit of having convinced otologists of the necessity of being familiar with the use of the rhinoscope.—*London Med. Record*, May 15, 1880.

Occlusion of the Larynx: Internal Laryngotomy.

Professor K. Störk relates, in the *Wiener Medizinische Wochenschrift* (No. 46, 1879), the case of a boy aged 7, who three years previously had diphtheria, for which tracheotomy had been performed, and he had since worn an unfenestrated cannula. Some time after the operation, he was brought to Dr. Störk in consequence of having become dumb. Laryngoscopic examination showed a normal condition of the parts as far as the interior of the larynx; beyond the vocal cords, a *cul-de-sac* was noticed. The vocal cords moved, but without sound; there was a remarkable absence of secretion. Dr. Störk diagnosed complete adhesion of the cricoid cartilage. On examination with a small tracheal speculum, a wall of mucous membrane was found to have been formed between the larynx and trachea, arching over the latter like a dome. Dr. Störk consequently resolved to perform internal laryngotomy. For this purpose he used a knife one-fifth of an inch long, set at a right angle to the hand, with which he carefully divided the adherent parts from below upwards and from behind forwards; this having been done, a specially constructed dilating apparatus was applied. There was little hemorrhage during the operation; and the only difficulty arose from the narcosis. After the operation, the laryngeal opening having been dilated and the tracheal opening closed, the patient was able to speak. —*British Med. Journal*, May 8, 1880.

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A new Subcutaneous Method of Operating for Removal of Growths from the Interior of the Larynx.

A simple, and therefore excellent, plan of operating on laryngeal growths is described by Professor Rossbach, of Würzburg, in the *Berliner Klin. Wochenschrift*, No. 5, 1880. All the preparation required by the patient is that he shall have learned to be laryngoscoped quietly. He sits before the operator in the ordinary way, but with his head supported by a photographer's rest. He holds his tongue himself with the right hand covered with a rough well-fitting glove, and must take care not at the same time to hide the middle line of his neck by his closed hand. The operator either holds the laryngeal mirror with his left hand, or, in the case of a very manageable patient, fixes it in position in the pharynx by means of an appropriate stand. The mirror must illuminate the larynx well, and give a clear view of the part to be operated on, as well as of the lower end of the epiglottis and the anterior commissure of the vocal cords. For the operation itself, a very sharp-pointed, delicate knife, with triangular blade and smooth cylindrical shank, is held in the right hand and pushed through the median lamina of the thyroid cartilage, a few millimetres below the lower angle of the thyroid notch, exactly in the middle line, into the larynx. The precise distance of the puncture from the notch depends on the seat of the growth in the particular case, and it varies from one to five millimetres below it. The point of the knife then appears above and close to the vocal cords. There are no blood-vessels of any importance either on the anterior or posterior surface of the median lamina of the thyroid cartilage, so that no bleeding is to be feared; the hyaline cartilage also, of which it consists, is so easily penetrated even in old people, and so seldom ossified, that scarcely any effort is required to make the knife enter the larynx through it. With the laryngeal mirror the entrance of the knife can be watched, and its movements regulated with the greatest ease during the necessary incisions, etc. The patient feels nothing except the external prick; he is not conscious of the presence of the knife in his larynx, nor does it excite cough, or, as a rule, any desire to swallow. Should deglutition occur, however, it is unnecessary to withdraw the knife, and the latter should be retained between the

thumb and forefinger, the finger resting on the larynx, so that the hand and the knife may follow the upward and downward movements of the thyroid cartilage. On the withdrawing of the knife the opening in the cartilage closes hermetically; the tiny skin-wound requires no other treatment than a small piece of plaster. A slight dull pain is all the patient feels after the operation.

Professor Rossbach uses knives of different breadths of blade according to the size of the growth to be removed. Owing to their thin cylindrical shank they can be moved in any direction, and, if necessary, can be bent to meet special cases. He thinks his method applicable to a large number of operations which have hitherto been performed by the introduction of instruments through the mouth, and its extreme simplicity seems to us to justify his estimate of it. He mentions that Dr. A. Eysell, of Halle, had previously suggested a somewhat similar plan, of which, however, he was ignorant until his colleague, Professor Gerhardt, told him of it. In any case Rossbach claims the first removal of a polypus in this way. Those interested in the operation will find some valuable hints upon its previous performance on animals at the end of Professor Rossbach's paper, which our space does not allow us to reproduce. The operating knife is also figured.—*Med. Times and Gazette*, April 10, 1880.

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Resection of the Ribs in Empyema.

In the current number of the *Birmingham Medical Review* is a paper by Mr. WILLIAM THOMAS, one of the surgeons to the Birmingham and Midland Free Hospital for Sick Children, on the surgical treatment of empyema, as illustrated by several cases in which resection of one or more ribs has been practised. The success recorded by Mr. Thomas is very marked. He has performed the operation nine times; four of the children have recovered with expansion of the lung and restoration of the excised rib, in three others all discharge has ceased and the lungs are in various stages of expansion; another case is "doing well," and the ninth case was almost moribund when operated on, and died six hours later from asthenia. The case of Dr. F. Taylor and Mr. G. Howse is also recorded in the paper. The object of the operation is to allow of full retraction of the ribs and efficient drainage of the pleural cavity. It is of course obvious, but yet not always borne in mind, that an empyema can never be cured unless the cavity of the pleura is obliterated by the expansion of the lung, the displacement of viscera, or the falling in of the chest wall, or all of these together. But only when the lung expands to its former size have we any right to speak of a "cure" having been accomplished; in the other cases recovery may have resulted, but the patient is sadly crippled, having a much diminished breathing power. We cannot keep this consideration too constantly and clearly in view; it is not enough to save the life in such cases, we ought also to save the lungs, and it is as much a stigma on surgery to allow a patient to recover with a collapsed useless lung, as to permit anchylosis of the hip to occur in a false position. This is not a mere quibble, for the want of a clear perception of this point leads to errors in practice which have very disastrous results: patients with pleuritic effusion are left alone so long as no serious symptoms arise, there is a long delay before the fluid is withdrawn, and meanwhile the lung is being compressed and possibly bound down, so that it can never fully expand again. We know that of late years paracentesis thoracis has become much more generally adopted and employed at an earlier period in the disease than formerly, but we want still further progress in the same direction. The main issue to consider in any case of pleurisy is the injury to the lung, and recovery with a damaged lung ought never to be looked upon as a satisfactory termination to a case. There is no period in the disease, after effusion has taken place, too early for aspiration of the inflamed pleura; there is no considera-

tion more pressing than the speedy removal of the force compressing the lung. These being our views, we look upon such an operation as resection of the ribs as evidence of failure in the earlier treatment of the case. The removal of a portion of a rib allows freer drainage than can otherwise be obtained, and no doubt permits of a more complete recession of the chest walls than is otherwise possible, and the bone is eventually reproduced; but we must again repeat that recourse to it is an admission of failure to obtain a "cure," the effect of which is in many cases as disastrous as the saving of a life at the expense of a limb.—*Lancet*, May 22, 1880.

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Antiseptic Nephrectomy for Hydronephrosis of the Left Kidney in a Young Child; Recovery.

Dr. W. H. Day, Physician, and Mr. J. Knowsley Thornton, Surgeon to the Samaritan Hospital for Women and Children, report (*Lancet*, June 5, 1880) the following almost unique case which we transcribe in full.

A. B——, aged seven, a healthy-looking girl, was admitted into the Dorset-street branch of the Samaritan Hospital, under the care of Dr. Day, on Oct. 21, 1879, suffering from an abdominal tumour, which was first noticed when she was two years of age. No accurate history could be obtained, as the mother was dead, and the child for the last two years had been away from the father. She had three sisters and one brother living, and they were all healthy. The child had had whooping-cough and scarlet fever, but no bad effects followed either disease. At no period had she complained of any pain or discomfort in her body.

On examination there was an abdominal tumour of irregular outline, and freely movable, rather firm in some places, but elastic in others. It was particularly elastic and prominent between the umbilicus and pubis, where fluctuation was detected. The outline was not unlike that of a large multilocular ovarian cyst, and on deep inspiration it could be seen extending an inch above the umbilicus. The superficial veins were enlarged over the whole abdomen, and there was a considerable quantity of free fluid in the peritoneal cavity. There was no enlargement of the spleen or liver, which occupied their normal position. Traced backwards towards the left renal region, the tumour seemed as though it might spring from the left kidney. A coil of intestine crossed it from left to right crosswise, and then from right to left. Midway between the umbilicus and pubis there was a soft elastic fluctuant swelling to the right of the umbilicus, and between it and the right anterior spine of the ilium the note was tympanitic (cæcum). The lower ribs, especially on the left side, were much pressed outwards, and the percussion note was very resonant over both hypochondriac regions. The girth at the umbilicus was 26½ in.; on the right side it was 12¾ in.; on the left, where it was most prominent, it was 14 in. There was no pulmonary or cardiac disease. The urine was normal. It was stated that for a long time before admission the patient had only passed urine once a day, and that the quantity was small.

Many opinions were expressed with regard to diagnosis: (1) Mr. Spencer Wells thought there was distinct hydatid fremitus in the prominent part of the tumour below and to the left of the umbilicus; he thought it might be removed. (2) Dr. Champneys expressed a similar opinion. (3) Dr. Greenhalgh and (4) Dr. Granville Bantock regarded the case as of ovarian or hydatid origin. (5) Dr. Savage considered the tumour renal. (6) Mr. Thornton also thought the tumour renal, but the question of hydatid, of mesentery or omentum, ought not to be excluded. He was in favour of a careful antiseptic tapping with a fine trocar in order that the fluid might be examined. (7) Mr. Meredith considered the tumour was due to hydronephrosis, or to hydatid disease; he also advocated tapping with a fine aspirating needle. (8) Mr. Doran thought it an ovarian cyst, with the trans-

verse colon adherent along its upper portion, but was doubtful, and advised an exploratory incision.

Nov. 4th. The bowels having been freely emptied by an enema, the child was narcotized with bichloride of methylene, and under the carbolic acid spray, Mr. Knowsley Thornton introduced a fine trocar into the fluctuating part of the tumour, midway between the umbilicus and the anterior superior spine of the ilium, when six pints and a half of a brownish-coloured fluid were drawn off, having an acid reaction and urinous odour. The puncture was dressed with carbolized gauze, and a flannel bandage applied.

On the following day the patient passed three pints of clear, normal urine, and the next day forty-four ounces. The general health was undisturbed. After this the quantity diminished to nine ounces in the same space of time, till three weeks before the operation for removal of the cyst, when twenty ounces of clear, non-albuminous urine were passed daily. On the 13th the cyst was fast filling up, and there appeared little doubt that it would be necessary to remove it.

On Dec. 14th the cyst had refilled, and the circumference of the abdomen was again twenty-six inches.

On Jan. 2d, 1880, the child was transferred to the surgical wards in Lower Seymour-street, and on the following day, bichloride of methylene having been administered by Dr. Day, Mr. Thornton, assisted by Mr. Meredith and Mr. Doran, removed the tumour by abdominal section. An incision commencing an inch above the umbilicus was carried down to its left side to three inches and a half. When the peritoneum was reached it was caught up by artery forceps and carefully divided; the cyst was exposed, and slight adhesions round the tapping puncture were easily separated by the finger, great care being necessary, as the cyst-wall was very thin. The small ovarian tapping trocar was used to empty it, and no difficulty was experienced in performing this part of the operation without the escape of any of the fluid into the peritoneum or over the incision. The cyst was found to be inclosed between the layers of the descending meso-colon, the descending colon having been pushed forward and to the right as the cyst enlarged; the sigmoid flexure was also much displaced, and lay across the lower part of the cyst, and between it and the bladder; the latter was distended with urine, and rose considerably above the pubes. Great care was required in enucleation, which was performed through an opening made in the capsule to the inner side of the descending colon. No distinct ureter could be found, but a thin cordlike structure passed downwards from the lower part of the cyst, and, becoming intimately connected with the parietal peritoneum, was lost in its reflection on to the fundus of the bladder. The cyst having been thoroughly enucleated to its base, was turned down, and the renal vein could then be *seen* and the artery *felt* pulsating behind it. A blunt aneurism-needle was passed between them threaded with a double ligature of No. 1 Chinese silk, and they were tied separately about an inch from the aorta. Another ligature of No. 2 Chinese silk was then tied round the whole pedicle on the distal side of the first ligatures, and the cyst cut away a good half inch from the ligatures. There was very little sponging necessary, even in the sac out of which the cyst had been enucleated, and none of the general peritoneum. After the sponging the parts fell very nicely together, so that on looking into the abdomen there was nothing to indicate where the cyst had been removed. Two small shreds of capsule were ligatured and cut away; all the other bleeding points were merely squeezed for a time in Wells's artery forceps. The incision was closed with No. 1 Chinese silk sutures, and the usual gauze dressing without protective applied.

The operation was prolonged by the little patient taking the anæsthetic badly, and retching a good deal, and by the care required in the enucleation. It occupied

an hour and a half. From first to last every detail was carried out strictly according to Lister's method. At 9 A. M., half an hour before the operation, the patient's temperature was 99.4°, and twenty minutes after she was placed in bed it was 97.8°, pulse 116, respiration 28. At 11.45 six drops of laudanum were injected into the rectum, and the same quantity again at 2 P. M. At this hour three ounces of clear, pale urine were drawn off by catheter. It was exactly like that examined the day before the operation, and deposited white urates. She was sick at 2, 3.30, 4.20, 4.30, 5.30, 8, 8.30 P. M., and at midnight. At 3.30 P. M. the pulse had risen to 136, and at 9.30 to 150; respiration 32; temperature 101.6° (the highest point reached at any time during the case). At 3.30 P. M. about an ounce of urine was drawn, dusky in colour, and containing some small black clots. From this time till 3 A. M. on the following morning about an ounce was passed without the aid of the catheter every hour and a half, each specimen being bright-red, as if almost pure blood. At 5.30 P. M. a large linseed-meal poultice was applied over the right kidney. At 11 P. M. two ounces of beef-tea were injected into the rectum, with six grains of bromide of potassium; as the little patient was very restless, a similar injection was given every two or three hours during the next thirty-six hours. At 3 A. M., after the operation, rather more urine was passed quite free from blood, and containing urates as before the operation; and from this time onwards a fair quantity of healthy urine, quite free from albumen, was passed, generally from a pint and a quarter to a pint and a half, or more, in the twenty-four hours. During the first twenty-four hours the total quantity, including the bloody urine, was twenty ounces.

The patient was sick at intervals till the morning of the second day, when it ceased, and she began to take bread and milk, and milk and lime-water freely. After the urine became normal, eight drops of laudanum were given occasionally per rectum, instead of the bromide. At 9 A. M. on the first day the temperature was 98.8°; pulse 140; respiration 26. At 10 P. M., temperature 99.6°; pulse 132; respiration 16. At 10 A. M., second day, temperature 99.4°; pulse 120. At 9 P. M., temperature 100.4°; pulse 114. The bowels moved on the fourth day. All the sutures were removed on the sixth day, when the wound was found well united by first intention. From this time the temperature was normal and the pulse about 96. She was moved into the convalescent ward on the ninth day, and was soon after up and running about. She would have left the hospital for a convalescent home at Brighton on the twenty-third day, but her departure was delayed by an attack of ringworm.

Remarks.—On the day following the tapping the patient passed three pints of urine, and two pints on the second day. This shows that there was some sympathetic irritation of the right kidney. The excessive congestion of this remaining kidney after the major operation may then have been to some extent due to the same cause. The bloody urine was, however, highly charged with carbolic acid, and remained for some days free from putrefaction, while some of the clear urine standing beside it was putrid in twenty-four hours. Both specimens were in similar open vessels, and both were tested from time to time by odour and microscopic examination for bacteria. The ordinary urine was highly offensive, and swarmed with bacteria; the bloody urine got gradually darker in colour, but remained free from odour, and several days later contained no bacteria, but some penicillium.

It seems to us probable that the extreme congestion of the kidney was due rather to the carbolic acid than to the sympathetic irritation. It is obviously difficult to assign to each factor its share, but we know that there is often considerable congestion of the kidneys after ovariotomy, and that this has been decidedly increased in severity since the introduction of Listerism in abdominal surgery.

The cyst was shown at the Pathological Society as a fresh specimen, and we therefore reserve all description of it for the "Transactions." The patient was shown in good health some weeks after the operation, at a meeting of the Medico-Chirurgical Society. The extremely thin condition of the front of the cyst wall seems to us fully to justify our decision that the time for operation had arrived; a very slight accident would have been sufficient to cause extravasation of the cyst contents into the peritoneum.

There are three very important points worthy of special attention: 1. The safety of the antiseptic exploratory tapping, evidenced by the absence of all subsequent constitutional disturbance. 2. The rapid and satisfactorily convalescence after so prolonged and serious an operation on a young child, also greatly due to the antiseptic precautions. 3. The speedy disappearance of blood and albumen from the urine after such a severe congestion. The urine was frequently examined during convalescence both by tests and the microscope, and was always quite normal.

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Hydronephrosis; Nephrotomy; Recovery.

Dr. THOMAS SAVAGE, Senior Surgeon to the Hospital for Women, Birmingham, records (*Lancet*, April 17, 1880) the following case:—

Mary N., aged forty-six, married twenty-one years, with five children, came as an out-patient October 28, 1879. She had noticed a lump in her abdomen for a year and a half; is quite regular, the last period being a fortnight ago. Has suffered from prolapsus uteri, for which she has worn various pessaries. She is thin, and looks careworn.

On examination there was a tumour about the size of a fœtal head, occupying the right lumbar and umbilical regions. It was elastic, very movable, and painless, clearly a cyst, and appearing to spring from the right kidney. The urine was examined several times, and found to be normal. There was no history of pus or blood in the urine, nor of injury in any way, and there was no appearance of malignancy, but there was an indistinct history of renal colic, to which the patient referred as having occurred about three or four years ago, and which was marked by intense pain on the right loin, frequent micturition, and the necessity for constant application of hot fomentations. On repeated examinations, seeing that it sprang from above and had clearly no reference to the pelvis, that pressure on the right kidney pressed it forwards, and that there was resonance on percussion over one portion (the lower) of it, the tumour was diagnosed as a hydronephrosis, with a fairly long mesonephron. Very curiously, it was said to become smaller at the menstrual periods. As time went on the patient was sure the abdomen was enlarging, and this, together with the fact that she was getting thinner, and was now (January, 1880) quite unable to do her household work, induced a recommendation to come into hospital and submit to an attempt at removal, or at all events, to allow us to make an exploratory incision.

On January 16, the operation was performed, which consisted of a median incision, extending from about two inches above to two inches below the umbilicus. The tumour now exposed was seen to be cystic, and was covered by the upper layer of the meso-colon. It was tapped, giving exit to a clear, watery fluid; unfortunately this got mixed with blood, and was thrown away, and so neither the quantity nor the quality could be ascertained. When the hand was passed down to the base it was found that the attachment was very broad—*i. e.*, thicker than one's wrist—and it appeared impossible to tie the artery and the vein, as also to tie the mass in bulk, at so great a distance, deep in the abdomen, and close to the spine. The wall of the cyst on the outer and front part was made up of true renal structure—*i. e.*, the dilated pelvis of the kidney, in which were seen the

enlarged calyces and papillæ. The other part of the cyst-wall was evidently made up of two portions: an outer, being a continuation of the capsule of the kidney; and an inner, apparently derived from the lining of the enlarged pelvis. The hand was passed into the cyst in search of a calculus in the ureter, but none was found, and it was then sponged out with carbolic solution. A wire clamp was applied about the middle of the collapsed cyst, and about one-half of the distal portion—*i. e.*, about one-fourth of the whole mass of the cyst—was cut away, leaving one-fourth still attached to the distal side of the clamp. This large mass was left for the sake of security against slipping. Perchloride of iron was applied to it, and carbolized lint applied as dressing. About the fourth day afterwards there was noticed a slight welling up of clear fluid in the centre of the stump, which appeared likely to eventuate in the presence of a persistent urinary fistula. The clamp was cut away on the twenty-third day, and the sloughing stump gradually cleaned, so that the patient left the hospital on March 1st.

When seen again on March 15, at my house, the wound had cicatrized with the exception of an area about the size of a threepenny piece, at the bottom of which was a sinus, into which a probe passed for two inches directly backwards and without pain or bleeding. The patient stated that there was a daily discharge of clear fluid of from a tea- to a tablespoonful in quantity. She appeared to be quite well in herself, and there was no tumour to be felt. She expressed herself as being better, and much more comfortable than before the operation.

Remarks.—The surgery of the kidney has of late attracted a considerable amount of attention, more especially with regard to the subject of nephrotomy; and several cases have recently occurred which tend in the direction of making it a justifiable and recognized operation. This has no doubt been brought about by the greater safety of abdominal section now compared with what formerly obtained. It may be deemed suitable in some few cases, in the early stages, of encephaloid and sarcoma; in hydronephrosis, as in the cases related; and in pyonephrosis, where the patient is in a state of hectic, or rather, before that stage, if possible, has come on; and for the removal of calculus in the ureter or in the pelvis.

There appear to be certain difficulties connected with the operation which have occurred to my mind since I operated on the above case. First, there is the thickness of the so-called pedicle or base, which at so great a depth may prove a considerable hindrance to successful ligature and subsequent cutting away. Of course the clamp is out of the question for the entire removal of the kidney, as the mesonephron would seldom, I imagine, be long enough to be brought up to the abdominal wall; and kidney tumours are often very deceptive in this respect, appearing to be freely movable in all directions nearly all over the abdomen, but found to be in reality rather firmly bound down. The clamp could be applied only to the tumour itself, as in my case, and then it is a question how far the part of the cyst left attached may not continue to be a secreting surface, and so the patient, perhaps, be no better for the operation, or leave a fistulous tract, which, though relieving a hydronephrosis, is, to say the least, not a pleasant accompaniment to one's ordinary life troubles. Secondly, there is the difficulty, I imagine, in many cases of having to pass a ligature round so short a vessel as the renal artery and vein are; and, thirdly, there is the question whether, when a ligature has been passed, the shortness of the vessel, and therefore the close proximity of the ligature to the great vascular trunks, will not prevent thrombosis occurring in the proximal side of the ligature, and hence permanent occlusion. I am not prepared to answer these points, but they are such as have occurred to me in thinking on the subject.

The cases reported by Simon, Czerny, Martin, Zweifel, and more recently by

Knowsley Thornton, and A. E. Barker, will do much to bring nephrotomy and nephrectomy before the profession; and the foregoing case is recorded with the same view.

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Transverse Perineal Urethrotomy in Obstinate Strictures.

Practical surgeons have long been aware of the difficulties attending external urethrotomy in cases of obstinate and old-standing stricture. Dr. RUGGI (*Bulletino delle Scienze Mediche*, February, 1880) gives particulars of two cases in which, unable to find the urethra by the ordinary longitudinal incision, he had recourse to a transverse one, with complete success. The first case occurred in an individual, aged 54, whose urethra from the meatus to the bulb was impermeable to the smallest bougie. The author, considering that in such a case Syme's operation would be unsuitable, laid bare the perineal triangle formed by the corpora cavernosa, cut through the soft portions at the base of this triangle, carrying his knife parallel with the fascia media, and taking care not to go sufficiently deep to divide the dorsal vein of the penis. The urethra was at once recognized by the thickness of its walls, though the canal was so contracted as scarcely to allow the smallest-sized instrument to pass into the bladder. In the second case, the author had succeeded in passing a small bougie as far as the seat of the stricture, but here it doubled upon itself, and could not be made to proceed further. The patient was aged fifty-three, and his perineum was the seat of several fistulæ. In this case, the perineal incision was crescent-shaped, and measured ten centimetres. The appearance of the parts was so altered that the longitudinal incision did not enable him to find the urethra; this, however, he discovered readily enough on making a large and deep transverse cut. The portion of urethra anterior to the wound was dilated from behind forwards by the urethral dilator, and a gum-elastic catheter with its stylet by this means passed. The perineal fistulæ were slit up, and as much of the brawny cicatricial tissue removed as possible. The patient left the hospital, after a stay of two months, perfectly cured. The author gives certain directions for this operation; he makes his external incision, guided by the raphe if this still exists, if not, then as nearly as possible in the position where he thinks it ought to be. Hemorrhage is best restrained by Péan's hæmostatic forceps. When he considers that the level of the urethra has been reached, he enlarges the margins of his incision, and changes it from a longitudinal into a transverse one. He points out that in this procedure there is little danger from hemorrhage from either veins or arteries, inasmuch as the median artery of the perineum, the arteries of the bulb, and other vessels, have, in the majority of cases, been obliterated by the periurethral infiltration. Should hemorrhage, however, supervene, the temporary application of the hæmostatic forceps will always be found sufficient to check it.—*London Med. Record*, May 15, 1880.

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Inguinal Castration.

The following *résumé* is given in the concluding portion of an original memoir on castration in inguinal ectopia by MONOD and TERRILLON of Paris (*Archives Générales de Médecine*, Nos. 2 and 3, 1880). 1. Inguinal castration is not a dangerous operation, and in a large majority of cases the patient recovers. 2. Peritonitis is not, as has been maintained, an inevitable and constantly fatal consequence of the operation. It is, indeed, an unfrequent result. It was observed but in three of fifty cases, and in one only of these was it fatal. 3. The indications of inguinal castration need not sensibly differ from those of scrotal castration. 4. In cases of tumour, the operation may be practised with less hesitation, since degeneration of the misplaced gland is most frequently of a cancerous

nature, and the inguinal testicle is in all cases incapable of generative function. 5. The operation could, and indeed should, be performed at an early period, with the hope of preventing a relapse, which hitherto has been of almost constant occurrence. 6. Inguinal castration is indicated when the misplaced testicle is painful or when it is the seat of serous or repeated inflammatory affections (pseudo-strangulation). The inutility of the organ with regard to its function, is a point in favour of intervention. 7. The operation is an easy one, and does not, as a rule, need the employment of any special proceeding.—*London Med. Record*, May 15, 1880.

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On the Treatment of Lateral Curvature of the Spine by Steel Supports, Plaster-of-Paris Jacket, and the Poroplastic Jacket.

At a late meeting of the Royal Medical and Chirurgical Society (*British Med. Journal*, May 29, 1880), Mr. Wm. Adams read a paper on this subject. He alluded to the great change in the treatment of curvatures of the spine, both angular and lateral, during the last three years, in consequence of the method introduced by Professor Sayre of New York, *i. e.*, the application of the principle of extension, by suspending the patient from the head and arms, and then applying a plaster-of-Paris jacket during suspension. The author did not propose to speak of angular curvature from Pott's disease, further than to say that it was in this class of cases that the advantages of the plaster-of-Paris jacket were most conspicuous; and his experience led him to confirm all that Professor Sayre had claimed for it; but in the treatment of lateral curvature, Mr. Adams differed from Dr. Sayre, and believed the plaster-of-Paris jacket to be as useless and injurious in this class of cases as it was useful in cases of angular curvature.

For practical purposes, the author arranged cases of lateral curvature in three classes, viz., 1. Physiological curves; 2. Confirmed structural curves; 3. Commencing structural curves. In forming a diagnosis between these three classes, the importance of the stooping position as affording evidence of the existence of rotation of the bodies of the vertebræ was particularly insisted upon, attention being directed to the symmetrical relations or otherwise of the angles of the ribs in the dorsal region, and of the transverse processes in the lumbar region, rather than to the spinous processes, the apices of which might preserve their normally straight line in relation to one another, without any lateral deviation, whilst rotation of the bodies of the vertebræ might have taken place to a considerable extent, rendering the case incurable. This fact was illustrated by a specimen exhibited to the society by Mr. Adams, and described in a paper published with illustrations in vol. xxxvii. of the *Transactions* of the Society. In the cases of commencing structural curve, in which probably the intervertebral cartilages only had suffered from unequal compression, arranged in the third class, and forming an intermediate group between the first and second classes, the spinal curvature was much more apparent in the standing than in the stooping position; although, in the stooping position, it did not completely disappear, as in the physiological curves. Some evidence of commencing rotation was afforded by a slight posterior projection of the angles of the ribs on one side, and depression on the other; and a similar deviation as regards the transverse processes in the lumbar region, when the patient was examined in the stooping position.

With regard to treatment of cases in the first class, or physiological curves, no mechanical treatment by any form of spinal support should be given, but reliance should be placed entirely upon physiological means, such as gymnastic exercises, partial recumbency, and attention to the general health. In some cases, an elastic brace attached to stays might be used. In the second class, of confirmed

structural curves, mechanical support of some kind must be resorted to, and continued during the period of growth, in the hope of preventing increase and obtaining some improvement in the curvature; but confirmed lateral curvature, whether slight or severe, with its adapted series of structural changes, was essentially incurable. The most efficient retentive spinal support was an instrument made with a pelvic belt and spring plates attached to vertical bars at the back, without any mechanism requiring alteration by the surgeon. In some favourable cases for improvement, the stronger spinal instrument, with steel plates attached to levers, and adjusted by rack-and-pinion movements, might be used with advantage. Sayre's plaster-of-Paris jacket had been largely employed in these cases; but from what the author had observed in the practice of others, he condemned its application on the grounds that it failed as a curative agent, the gain in height by extension being quickly lost; that it weakened the spinal muscles by its constant use, and hindered gymnastic exercises; that it restrained respiratory movements, and prevented active exercise; and that it was an unnecessary restraint at night, and interfered with bathing and cleanliness. The poroplastic jacket, which, when softened by steam, was applied in the same way as the plaster-of-Paris jacket during suspension, was free from the disadvantages of the latter, as it could be removed at night, or at any time for the purpose of gymnastic exercises, etc. It acted as an efficient and light retentive support in many cases of incurable curvature. Commencing structural curves formed the only curable cases of lateral curvature; and for these the author recommended a combination of mechanical support, gymnastic exercises, and partial recumbency. By this combination of physiological and mechanical means, the further progress of curvature would be arrested, and the best opportunity afforded for recovery from such slight structural damage as might have already occurred.

Mr. BRYANT said that Mr. Adams's observations were consonant with what was felt by most surgeons. On one point, however, there might be difference of opinion, viz., as to the time when curvature ceased to be curable by physiological means, and passed into the incurable stage, requiring artificial supports. He would delay assuming the commencement of the incurable stage as long as possible. In many cases of lateral curvature, recovery took place in a remarkable degree. He approved of the means of diagnosis recommended by Mr. Adams. He had been accustomed to examine the patients in the stooping position, with their hands on the back of a chair. He agreed that the plaster-of-Paris jacket was not fitted for lateral curvature; though in some rare instances, of which he had seen one, it was the only thing that would support the patients. He would even discard the iron apparatus. The poroplastic jacket was preferable to any other; and the addition of steel bars to it, as recommended by Mr. Adams, was no doubt an advantage.

Amputation in the Aged.

In the *Centralblatt für Chirurgie* for January 10, Dr. MAX OBERST communicates a paper detailing the results of the amputations performed in Prof. Volkmann's clinic at Halle, upon persons of more than fifty years of age. Until recently, he observes, the generally admitted maxim, founded on long experience, prevailed that the results of operations were influenced to a great extent by age; and those performed in old persons turned out much more unfavourably than those which were performed in the bloom and vigour of life. The condition of the cellular tissue exposed it to phlegmon, while the unfavourable circumstances of the circulation in the aged led to gangrene of the flaps, and consequent putrefactive infection. Some surgeons laid down the diminished power of

resistance and the increased "vulnerability" of old age as contraindications for the operation. It is only since the introduction of the antiseptic system that the erroneousness of these views has been shown, by proving that the age of the patient exerts no influence on the course or issue of amputations, providing that two circumstances be certainly avoided—the septic process and the septic fever arising from it, and a great loss of blood. During the vital energy of youth both sepsis and loss of blood, to a certain extent, can be resisted; while a small amount of these may be too much for the aged, breaking up their strength and leading to a rapidly fatal termination. So that if we wish to place all ages on an equality in relation to recovery after amputation, we must therefore guard effectually against the origin of the septic process and a considerable loss of blood. Both of these we are now happily able to do by means of the Listerian treatment of wounds and the application of Esmarch's bandage.

In proof of what is advanced above, statistics of the Halle clinic may be cited, comparing the results of amputations treated antiseptically, without reference to age, with those which were performed on persons above fifty years old. Of 220 patients upon whom amputation has been performed since March, 1874, 9 died, or 4.1 per cent.; and of the 48 patients who were more than fifty years of age, 2 died, or 4.17 per cent. In other words, the results, as life was concerned, were not influenced by age. Of these 48 patients, 30 were between fifty-one and sixty years of age, 13 between sixty-one and seventy, and 4 between seventy-one and eighty. One patient upon whom amputation of the thigh was performed, and who recovered, was eighty-four years old. Of the 48 amputations 7 were of the forearm, 6 of the arm, 1 disarticulation of the shoulder, 7 partial amputation of the foot, 13 of the leg (with two deaths), and 14 of the thigh. In one of the fatal cases, amputation of the leg for senile gangrene (aged seventy-four), death was caused by tetanus, a complication with regard to the prophylaxis of which we still are powerless. The second death occurred after amputation of the leg for injury in a man (aged fifty-six) addicted to the use of alcohol. He died, with the wound in a completely normal condition, sixty hours after the operation, without ever having completely recovered from the narcosis. The course of the wound in all the cases was unattended with reaction, no phlegmon, suppuration of bone, or phlebitis occurring. In one-half the cases absolute union by the first intention took place, and in the remainder union was delayed by slight gangrene at the edges of the flaps or by small suppurating fistulæ.

In the above comparison there have been excluded complicated cases in which amputation has been performed during existing sepsis, amputations coexisting with other serious injuries, double amputations, cases in which the patients have died of diseases which certainly had no connection with the operation, and hip-joint operations.—*Med. Times and Gazette*, May 15, 1880.

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Incomplete Lateral Dislocations at the Elbow.

In a contribution on incomplete lateral luxation at the elbow (*Centralblatt für Chirurgie*, No. 9, 1880), Dr. Otto Sprengel, of Halle, states that the frequent occurrence of this form of injury has never been fully recognized. In the majority of cases the luxation is not diagnosed, and consequently not reduced; and the subsequent treatment is often so unsuitable that the patient retains a more or less stiffened, and, not unfrequently, a completely ankylosed joint. The bones of the forearm may be displaced either to the outer or to the inner side. In the former case, the greater sigmoid cavity surrounds the capitulum instead of the trochlea, and the head of the radius rotates freely in the position it occupies in luxation outwards. In partial luxation inwards the head of the radius is in con-

tact with the trochlea, and the margin of the sigmoid cavity stands away from this articular surface. The internal condyle of the humerus is completely or almost completely covered by the olecranon, whilst there is abnormal prominence of the external condyle. In luxation outwards the most prominent sign is displacement of the head of the radius, the articular surface of which can be readily felt. On careful digital examination of the joint, a portion of the trochlea may be made out near the inner condyle. The diagnosis is not usually attended with difficulty, but when the patient is very young, and the injured joint is much swollen and bruised, it will be necessary to make the examination under chloroform. Which of the two forms of partial luxation, the outer or the inner, occurs more frequently has not yet been determined. According to Hahn, of Stuttgart, who was the first surgeon to direct attention to the frequent occurrence of partial lateral luxation at the elbow, the displacement of the bones of the forearm is almost always to the inner side. Of five specimens of lateral luxation, removed by resection of the elbow, in consequence of ankylosis, Hueter found in all that the displacement had been to the outer side. Volkmann found external displacement in all the seven cases of partial lateral luxation of the elbow that came under his notice in 1873. An interesting complication of partial luxation intervals was first described by Hueter, who in each of his five specimens found that the inner epicondyle had been broken off, and that it rested in the groove of the trochlea, so as to form a serious impediment to reduction. Dr. Sprengel reports two interesting cases from the clinique of Professor Volkmann; one a case of old luxation of the elbow inwards, with ankylosis of the joint, which was treated by resection; the other a case of luxation outwards, in which, owing to secondary perforation of the integument, the condition of the injured joint and the altered relations of the bones could be directly observed.

The patient in the first case was a man, aged 25, who seven months previously, when travelling in South Africa, far from surgical aid, had received a severe injury to the left elbow through the overturning of a wagon. After the gradual disappearance of a large swelling about the seat of injury, the joint became stiff, and the forearm quite useless. On his return to Europe there was found to be abnormal prominence of the external condyle of the humerus. The internal condyle was covered by the olecranon, and could not be felt. At the request of the patient, the ankylosed elbow was resected. Subsequent examination of the removed joint confirmed the previous diagnosis of partial luxation inwards. The capitulum was apposed to the trochlea, and the ulna had been removed so far inwards that nearly half the sigmoid cavity remained free from contact with this articular surface. On this free portion of the sigmoid cavity, and connected with the articular cartilage by fibrous tissue, was a piece of bone detached from the epicondyle. Firm fibrous adhesions bound together the opposed surfaces of the humerus and the bones of the forearm. A girl, aged 7, received an injury to the elbow, which was diagnosed as fracture, and treated by the application of a gypsum bandage. On the removal of this bandage five weeks afterwards, a large opening was found in the integument, through which the inner condyle and a portion of the inferior articular cartilage of the humerus protruded. The head of the radius could be plainly felt below the external condyle, the ulna had been displaced outwards, and the outer half of the sigmoid cavity embraced the capitulum. The luxation was reduced under chloroform, six weeks from the date of the injury. Before the bones were replaced in their normal position, most of the injured joint could be exposed to view, through forcible abduction of the forearm, and still further protrusion of the inner condyle through the wound.

From 1873 to 1879, thirty-two cases of partial lateral luxation at the elbow were observed in the Halle surgical clinic. There can be no doubt, Dr. Sprengel

states, that Hahn was quite right in his opinion that this form of injury is of very frequent occurrence, especially in childhood. In eighteen of the twenty-one cases recorded by Hahn the patients were children. Of the subjects of the thirty-two cases collected by Sprengel, four were adults and twenty-eight between the ages of two and sixteen years. The injury was an inward luxation in twenty, and an outward luxation in the remaining twelve cases. In fifteen cases the lesion was quite recent; in each of these the luxation was reduced, and almost always after the administration of chloroform.

The usual method of reduction consisted first in bending the forearm laterally, so as to increase the extent of the displacement. By next moving the limb to an opposite position, and through direct pressure on the joint, the luxation could be reduced in most instances without much difficulty. In one only of the seventeen cases of old luxation could the bones be replaced. This was an instance of luxation inwards of eight weeks' standing. In the remaining cases the main object of the treatment was the removal of the ankylosis, or at least an improvement in the condition of the joint. In two cases of old luxation inwards, in which reduction could not be effected, the functions of the injured joints were almost completely restored after a treatment consisting in forcible rupture of adhesions and passive movements of the limbs. In some of the remaining cases a fair extent of movement was thus attained, whilst in others the ankylosis was too complete to be relieved by any treatment short of resection of the joint.—*London Medical Record*, May 15, 1880.

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Subcoracoid Dislocation of Humerus without Rupture of Capsule.

Mr. Frederick S. Eve describes the following case of subcoracoid dislocation of the humerus without laceration of the capsule, and with an indentation on the posterior surface of the head of the humerus; and made some remarks on the mode of production of fracture of the anatomical neck with dislocation.

Thomas B., aged 36, was knocked down by a train, while at work on the line. On admission to St. Bartholomew's Hospital, he was found to have sustained a subcoracoid dislocation of the right humerus, presenting the ordinary characters. The dislocation was readily reduced by traction with the heel in the axilla. He died twelve hours after the accident, from injuries to the thorax. At the *post-mortem* examination, except some laceration of the lower part of the deltoid, the muscles of the shoulder were found to be not damaged. The joint was unopened; but, on incising the capsule, it was found to have been detached from the anterior margin of the glenoid cavity, but remained continuous with the periosteum. On the posterior surface of the head of the humerus, at the margin of the articular cartilage, a deep vertical indentation or groove was seen, into which the anterior margin of the glenoid cavity accurately fitted. Mr. Eve said that the injury was probably produced by direct violence. He had been unable to find on record a single case of traumatic dislocation in which the joint was not opened. The groove or indentation was, doubtless, from its position and shape, produced by the forcible impact of the humerus against the anterior margin of the glenoid cavity. Malgaigne, who mentioned two specimens of old dislocation forwards in which somewhat similar grooves had been formed by attrition, thought that they were sometimes produced as in the case related (*Fractures et Luxations*, p. 496). An easy explanation of the mode of production of fraction of the anatomical neck with dislocation of the head, was suggested by this case, for, if the blow had been sufficiently forcible, the head would have been chipped off by the anterior margin of the glenoid cavity, and would then have been displaced forwards. An explanation was also given of the cases of impacted fracture of the anatomical

neck, with rotation of the head of the humerus on its axis, which was borne out in several particulars by the two cases recorded by Mr. R. W. Smith (*Fractures and Dislocations*, pp. 196 and 197). In both these, the head was displaced forwards.—*British Med. Journal*, May 15, 1880.

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"Bone-setting."

At a recent meeting of the Clinical Society of London (*Lancet*, April 17, 1880), Mr. MARSH reported the following cases of bone-setting:—

No. 1. A countryman, aged fifty, dislocated his shoulder. The dislocation was at once reduced, and the arm bandaged to the side. Nine weeks afterwards he came to London for advice. It was found that the limb was so stiff that he could not move the elbow more than two or three inches in any direction; and any movement, whether on his part or during examination, produced great suffering; and he complained of constant severe aching from the shoulder to the elbow. It was noticed, however, that the joint was quite free both from heat and swelling. When he had taken gas the scapula was fixed, and the humerus was fully rotated on its long axis in the glenoid cavity, and then carried, in a series of short jerks, through all its natural range of movement. Numerous adhesions around the joint were felt to give way. He now lost much of his pain, and could move his arm freely except in an upward direction. A fortnight later the arm was carried, while he was under gas, freely above his head; after this all his pain ceased and he recovered the full use of his limb.

No. 2. A man, aged twenty-four, in jumping from a cart twisted his foot under him. Great pain and swelling followed, and the limb from the instep to the middle of the calf came out, he said, "all black and blue." He was laid up for a fortnight, and then took to walking with a stick. Eight months afterwards he came to St. Bartholomew's Hospital. The joint was still swollen, and the seat of severe pain if weight was thrown upon it. He had gone from hospital to hospital, and been liberally supplied with bandages, elastic stockings, liniments, and the inevitable tincture of iodine; but he got no better. The ankle was found free from unnatural heat, indeed it was unnaturally cold; the skin was bluish and shiny, and the outlines of the joint were obscured by brawny swelling. The heel was a little drawn up, and flexion and extension were almost entirely lost. He took gas, and the joint was carried by short jerks through all its natural range. Numerous adhesions in the sheaths of the surrounding tendons were felt to give way. Within an hour he walked freely about the ward, and the next morning walked from Hackney to the hospital and reported himself ready to go to work on the limb. Six months later he came with the ankle again out of order. He said he had been quite well till three months before, when the joint had become painful and weak. On inspection, nothing could be found amiss, and he was advised to have the part strapped, and to rest it. He, however, said he was sure if it were "bound" it would be all right. Gas was given, and the joint was carried into full extension and full flexion. During flexion some slight adhesions were felt to give way. He wrote next morning to say that he had been walking on the limb, and found that he could now do so without either pain or limping.

No. 3 was a case of a similar character. A man, aged forty-five, could bear no weight on his ankle nine months after a severe sprain. The joint was quite free from heat. All his symptoms disappeared when the ankle was flexed and extended under gas; and in less than a week he was quite well.

No. 4. A lad, aged seventeen, of strumous family, was reported to have hip-disease. He could bear no weight on his limb, and the thigh was flexed,

abducted, and rotated outwards. There was deep-seated pain at the back of the joint on any movement, and tenderness on pressure in this situation. There was no swelling. On examination, it was found that the hip-joint was sound, but it was believed there was strumous periostitis of the innominate bone beneath the external rotator muscles. He was told to rest, to have a course of blisters, and to take cod-liver oil. Three months later, as he was no better, he was taken to a bone-setter, who moved his limb. After this he lost all his pain, and in a week was "all right." Just twelve months later, having in the interval been quite well, he was, on rising quickly from his chair, seized with his old trouble. He had great pain, and felt sick, and the limb became instantly locked and intensely painful, if any weight was thrown upon it. On examination, the thigh was found flexed, abducted, and rotated outwards; movement at once produced painful spasmodic contractions of the muscles, and there was excessive pain on pressure over the sciatic notch. He was put under gas, and the limb was gently carried through its complete range of flexion, extension, abduction, adduction, and rotation. Directly afterwards, though nothing seemed to give way, or to slip, he lost his pain, and he could freely move his limb. He has had no relapse.

Mr. Marsh remarked that he had brought the subject of bone-setting forward because, undoubtedly, there were a numerous set of cases which forcible movement could speedily cure, but which had not hitherto been treated as commonly as was desirable by this means. These cases, as they made but little progress under the routine treatment of rest, liniments, and elastic stockings, frequently fell into the hands of bone-setters, by whose manipulations many of them were cured. He alluded principally to cases in which adhesions had formed in or around joints, otherwise sound, as the result of injury or inflammation. Sir James Paget was the first to draw attention to this subject in a clinical lecture given as long ago as 1867, and since published in the first and second editions of his "Clinical Essays and Lectures." In this essay the principles of forcible movement as a means of treatment were very clearly and most fully laid down, and were rendered all the more distinct by being brought into contrast with those which regulate the use of perfect rest so essential for joints which were the seat of inflammation, especially of strumous disease. Displacements of cartilages and slipped tendons might be, and doubtless sometimes were, put right by bone-setters; but he believed the cases of adhesions—especially such as occurred after an injury outside a joint, which itself was healthy—afforded by far the most numerous instances of improvement after forcible movement, and he expressed his conviction that they were much more frequent in practice than many had supposed.

After referring to the classes mentioned by Dr. Hood in his lectures, the author stated that all he had observed led him fully to accord with the teaching of Sir James Paget, that when joints after injury have remained stiff, "weak," and painful, and yet free from abnormal heat, beyond the usual period of convalescence, and when they had no history of previous disease, and when a careful examination could detect no evidence of any of the diatheses, such as struma, or severe gout or rheumatism, the patient should be put under gas, and the limb should be carried in all directions through its full range of movement. As to the movement of particular joints, the author had seen good results in the shoulder, the finger joints, the knee, and the ankle. He had not used the method in either the elbow or the hip, having met with no cases which seemed suitable for it. In conclusion, he stated that, if synovitis had been present, movement must be very cautiously employed. In two knee cases lately under observation, in which synovitis had subsided for eight or nine weeks, and the joints had become per-

fectly free from swelling and abnormal heat, a renewed attack of inflammation, with heat, pain, and considerable effusion, had followed the manipulative treatment.

Mr. HULKE said they were much indebted to Mr. Marsh for bringing this very interesting subject before the Society. It was an opprobrium to surgery that so many people sought advice from bone-setters, not that patients could be prevented from sliding away, but because it was notorious that these empirics were or are in the habit of extracting written guarantees from their patients before proceeding to interfere with them; and thus the bone-setter, having shielded himself from the possible event of malpraxis, promises everything. To show how even intelligent people are blinded by the statements of these men, Mr. Hulke mentioned that he was consulted by a lady who had an enlarged bursa over the ischial tuberosity—a stiff hip-joint compelling her always to sit sideways on her chair. He explained the nature of the case, but the patient was persuaded to go to a bone-setter, who, after giving her oils for inunction, proceeded to put the "bone" in, which he did so effectually that the patient's husband declares that he "saw it go in!" He had no doubt some of the cases treated in this way were instances of adhesions, as Mr. Marsh had said, and the occurrence of such adhesions was long ago pointed out by Bonnet of Lyons. He (Mr. Hulke) had been personally the subject of such a condition. When in the Levant he fell over some rocks and injured his knee, which became acutely inflamed. The acute attack passed away, and left him with a stiff joint, so that he could not walk without support. Falling one day, his knee was bent under him, and, as he supposed, the adhesions must have given way, for on rising he found that he had regained free use of the joint, and could walk well without his supports; so that he thought there were such cases, which admitted of rapid cure when there was no actual disease of the joint. But, he added, we hear only of the benefit done by "bone-setting;" its disasters are carefully concealed. He had seen such disasters—often very grave mischief indeed; and more than once he had to excise a joint damaged from the rough usage it had suffered. One case he knew of, where there was disease of the shoulder and sinuses around the joint; the bone-setter broke down the adhesions, rekindling the inflammation, and the result was the death of the patient. If such cases could be published in their bare truth, the law would hardly shield the author from libel.

Mr. JOHN WOOD said there were cases in which the adhesions were outside the joint, especially the shoulder. A blow or injury on the deltoid was apt to be followed by great pain, lasting for months or even years. In such cases forcible movement was most successful, and the interpretation was that the subdeltoid bursa was inflamed and adherent to the muscle—a condition he had often found on dissection. Such cases were cured by manipulating the limb in different directions, or by acupuncture. But occasionally, after temporary relief, the pain returns. Where the articular cartilages are the seat of adhesions, such manipulative treatment was less likely to be permanently successful. Some of the cases of so-called misplacement of tendons were, he thought, really instances of inflammations of the sheaths of the tendons. The case which Mr. Marsh thought was one of displacement of the obturator tendon, was more likely an instance of effusion into the bursa in this situation; for it was difficult to see how the tendon could slip out of its groove; and the procedure adopted probably caused the rupture of the enlarged bursa. He had seen great mischief due to bone-setters, and this mainly in cases of hip-disease; and he would warn surgeons in such cases of the impropriety of attempting too early movement, lest inflammation of the bone be again set up. He had thus seen very serious symptoms started by movement attempted twelve months after the primary inflammation had subsided.

In old subjects, with tough and extensive adhesions, he had repeatedly seen fracture take place from the attempt to break down adhesions. "Sudden jerks," then, were to be deprecated; but gentle and slow movements, gradually increased in range, should be the plan followed. Not long ago he saw a lady who had anchylosis of both knees from rheumatism. Gentle manipulations succeeded in breaking down the adhesions in one knee; but in the other (which was more firmly anchylosed) the ligamentum patellæ gave way. The smooth porcellanous character of the ends of the bones, denuded of cartilage, could be felt; and in so advanced a case he was sure breaking down the adhesions did but little good. The ruptured ligamentum patellæ healed, but the stiffness returned to the joint. There was another class of cases out of which bone-setters made much capital—viz., cases of "hysterical spine"—of which he related an instance where a bone-setter, pretending that the patient had twisted her spine, proceeded to manipulate, and cured the patient at least for some months of the pain from which she had long suffered. It was just possible, of course, that in that case one of the little interspinal muscles had been displaced, and that it had been reduced by manipulation; but he was inclined to think that in the majority of cases hysteria was the real cause of the pain, and that the cure was attended by the deception of the patient on the one hand, and the bone-setter on the other.

Mr. T. Smith asked whether Mr. Marsh advocated these measures for the relief of stiffness in a limb following union of fractures. He was inclined to believe, with Mr. Wood, that adhesions were often outside a joint, and he had followed the procedure in desirable cases of the class pointed out by Sir James Paget, Mr. Wharton Hood, and Mr. Marsh. In six cases of Colles's fracture at periods varying from six weeks to three months, where the fracture seemed to have united badly, he had broken down adhesions of tendons by free and forcible movement. In no case had any serious disturbance followed; in two or three the manipulation was repeated more than once, and was followed up with shampooing and friction. In one case, where the whole hand was stiff, he began by liberating two fingers, and then passed to the others, taking each in turn. The same methods were applicable to the after-treatment of other fractures—*e. g.*, of thigh and leg; in the former case the knee, and in the latter the ankle, could be set free by forcible movement from the stiffness (and in the case of the ankle the malposition) so often following fractures. He agreed with Mr. Wood as to the improbability of one of the rotator tendons of the hip slipping out of place, for its anatomical disposition hardly showed where it could slip to. But no more could he see how an interspinal muscle could be displaced.

Mr. Heath indorsed Mr. Smith's remarks as to the after-treatment of fractures. No fracture should be considered cured until the movement of the joint was completely restored; and, were this thoroughly appreciated, many a case would be taken out of the hands of the bone-setters. The same thing applies especially to cases of injury about the shoulder. The pain, etc., were generally left to time, but in his opinion time never does cure them, and it was to be regretted that some of the most eminent surgeons should take the former view. Many such cases were set right by manipulation under anæsthetics. Whether there were adhesions inside or outside the joint was an open question. In some cases—*e. g.*, the knee—they were certainly within the joint. In breaking them down often decided loud "cracking" sound was produced, but this must not deter the surgeon. He had once fractured a humerus in this manipulation, but, after union had taken place, the patient was better than before. Of course, care must be exercised in the case of old people.

Mr. Barwell thought cases of slight subluxation, such as occurred in the shoulder and ankle, should not be overlooked. He had seen cases of injury

where there were no ordinary signs of dislocation or inflammation, yet there was inability to raise the arm; and a slight manipulation under nitrous oxide would often put them right, so that in many cases the use of the arm was immediately regained. The same held good with the ankle and tarsus, where a condition of slight downward luxation of the scaphoid produced lameness and inability to bear the weight of the body on the foot. He thought there was also a condition of subluxation of the os calcis on the astragalus. He had met with displaced tendons about the malleoli, especially the peroneus longus tendon; although the tendon could be replaced, it was almost impossible to keep it in position. He mentioned an instance where a lameness was cured by manipulation, which reduced a tendon so misplaced; but in another case no device succeeded in keeping the tendon in its groove. He asked what was meant by adhesions within a joint. He had never seen on dissection any adhesions comparable to those of other serous membranes; but hypertrophied synovial fringes might become united, and he had seen union between two cartilages on the knee. He concluded by relating how a lady who was thrown down by a cab, and seen by a bone-setter, who declared a "bone was out," and after manipulation said she was cured. But the reverse was the case, for in addition to a dislocation of the hip, she had also a fracture of the neck of the thigh, probably produced by the manipulation referred to.

Mr. G. Brown, referring to cases of anchylosis after acute rheumatism, said that owing to wasting of the muscles from impossibility of having early recourse to movement, the patient was unable to move the joint, although this may have been set free by passive motion. What procedure should be adopted in such cases, of which he had recently had an example under his care?

Mr. Morris said the debate suggested that it was not well to draw too much distinction between adhesions formed outside or inside a joint; but there were cases—*e. g.*, in shoulder and knee—where the contraction was due to changes in the capsule of the joint itself. He had dissected a contracted knee-joint, which could not be straightened until after division of the posterior ligament. So, again, in the shoulder there might be contractions and adhesions in the capsular ligament itself. If such structures be ruptured in attempt at restoring the limb the relief could only be temporary. He asked whether it was justifiable within six or seven weeks of the injury to resort to passive movement for the relief of stiffness due to fracture of the olecranon or patella. A recent case had brought this to his mind. A gentleman broke his olecranon by a fall on the ice, and a second injury delayed union. At the end of six weeks he became impatient to use the arm. Mr. Morris was averse to moving the limb too early. A further opinion was sought, which was favourable to forcible flexion under chloroform. This broke down the fracture again, and set up inflammation of the joint.

Mr. Prescott Hewett, who spoke on the invitation of the President, said that no doubt the cases in which the bone-setter succeeds were of the class alluded to by Messrs. Heath and Smith—viz., a slight injury followed by some contraction about a joint. The knee was often the seat of this, where, as in Mr. Hulke's case, an acute synovitis was followed by lameness due to adhesions, which could be readily broken down by forcible movement. He had broken down adhesions in knee and ankle with great benefit; he had been less successful with the shoulder, and least of all with the elbow. He found that Sir James Paget and Mr. W. Hood were of the same opinion as to the slight results following such treatment of the elbow—which is often the seat of adhesion—especially after fractures of one or other condyles. He had practised forcible movement under chloroform to break down the adhesions found in connection with contracted toes, due to wearing short and narrow shoes, such contractions occurring

often after the foot had been cramped for a very short time. Some of the cases consulting bone-setters were no doubt instances of slipped tendon; he had seen this occur in the case of the biceps tendon, and in those of the peronei muscles—these being difficult to maintain in proper position. No doubt great injury is at times done by too forcible measures employed at too early a period. He was once present when manipulation employed to break down adhesion about the hip resulted in fracture of the thigh, and that in a powerful young officer. He had seen severe inflammation follow attempts to break down adhesions of the knee-joint; and in one case pyæmia followed such an attempt made on the shoulder. The worst example he knew of the injury done by bone-setters was in the case of a young gamekeeper, whose leg became inflamed and gangrenous, following the manipulations of the bone-setter. The thigh had to be amputated, and the patient died.

Dr. E. H. GREENHOW expressed the hope that the discussion would bear fruit; not that it would prevent people going to bone-setters, but that it would enable surgeons to lay down the lines of the scientific treatment of such cases, and show their country friends that such cases were understood and could be rationally dealt with. Quite lately a friend of his, the subject of hysteria only, fell into the hands of a bone-setter. Of course, it could scarcely be expected that surgeons would do all that the bone-setter proposes to do—they are more cautious than the latter, to whom the adage, "Fools rush in," etc., would well apply.

Mr. MARSH, in reply, said that in relieving the stiffness of a shoulder it was essential to fix the scapula, which otherwise accompanied the humerus in its movements. The sudden event of the pain and lameness, and the rapidity of its cure in his fourth case, made him attribute it to slipping of the obturator internus tendon over a ridge of cartilage. He agreed with Mr. Wood that the jerks should be slight, and he had seen cases where too much force had been used and the thigh fractured. To Mr. Barwell he said that he had seen actual adhesions in joints; and he agreed with Mr. Morris that contraction of the ligaments was likely enough to occur in severe cases.

Nerve-Stretching.

Mr. BARTLEET, of Birmingham, in a communication to the April number of the *Birmingham Medical Review*, points out that the minor disorders of nerve-function are rarely associated with mortal disease, or if so associated, are overlooked in the greater malady. The morbid conditions of a combined motor and sensory nerve are accompanied by varying phenomena, and, as far as we know, there are no definite physical conditions, either of a nerve or a nerve-centre, which are with any degree of certainty severally associated with the subjective or objective symptoms. Hence our treatment of them is, and must be, until we know more of the subject, in the main empirical.

The author refers to a case in which, after amputation of the thigh for injury, the patient suffered from very distressing and painful clonic spasm of the stump, and at last died absolutely worn out. After death, the part of the anterior crural nerve in contact with the brim of the pelvis was found red and apparently inflamed. Probably it is suggested, some operation directly attacking the site of the nerve-irritation would, in this case, have not only increased the patient's comfort, but would even have saved his life. The excision of the painful neuromatous swellings occasionally found in stumps is, according to the author's experience, almost invariably followed by the recurrence of such growths, and by the return of the same distressing train of symptoms. It is believed that in cases of this kind good results are much more likely to be derived from an operation on

the affected nerve in its continuity. Of the propriety of such an operation in tetanus, Mr. Bartleet is inclined to be doubtful, as, in this disease, at all events when traumatic, the local nerve-injury which commonly is found to exist, is very rapidly associated with the condition of so-called increased polarity of the nerve-centres. The result desired by operating upon a nerve in its continuity, is the abrogation, temporary or permanent, of this as a carrier of motor or sensory impressions. This result has been attained in at least three ways: by nerve-stretching, by nerve-pinching, and lastly, by nerve-freezing. During the operation of nerve-stretching, the cellular and vascular connections of the nerve are freely severed. Any contused or thickened areolar tissue of the nerve, if such existed, would probably be altered in bulk or in shape, and the different contents of the nerve-fibres are compressed and displaced. The forcible pulling from above and below might also, it is thought, sever any small fibres of the nerve proceeding from it to neighbouring parts, especially if such fibres existed which, from disease, were either more rigid or softer than natural. In the operation of nerve-pinching, the vascular supply of the nerve and its nutrition would be but slightly interfered with, and the chief results of this proceeding would be displacement of the contents of the nerve-tubes and paralysis of its functions. Nerve freezing is performed by exposing the nerve and freezing it with ether spray. In this operation the cellular and vascular connections of the nerve are undisturbed, as also the contents of the nerve-tubes. These contents, however, are frozen, and might become permanently injured.

Mr. Bartleet's personal experience applies only to nerve-stretching, and he prefers this to the other simpler and less severe operations, for this reason; that, while we know little of the physical causes of the objective and subjective symptoms for which such operations are performed, and little also of what it is in the operation that does good, where relief has followed its use, it is well to perform an operation which, while more severe than some others proposed, is yet not dangerous to life or limb, and one which seems likely to affect the nutrition of the nerve more or less permanently.

Three cases are reported in which Mr. Bartleet performed the operation of nerve-stretching. An ill-nourished man was hurt in his work, and had to suffer amputation through the upper third of the arm. During the healing of the stump, and for many months afterwards, this patient complained of severe pains in it. The stump became very tender and tremulous. No permanent benefit was obtained from change of air, tonics, or subcutaneous injections; and about two years after the amputation the man again came under the care of Mr. Bartleet, who found on examination under an anæsthetic, that the stump was a very good one, and free from cicatricial adhesions, but presented nodules, which were thought to be neuromata. An incision was made over the brachial artery, and four or five nerve-trunks were stretched. The wound healed satisfactorily, but the patient's condition remained unaltered. It was thought that some affected nerves had escaped being stretched, but there was also a strong suspicion of malingering. Another operation was afterwards performed, and three cords of the brachial plexus were well stretched. The wound had not healed at the date of the publication of this article, but according to the statement of the patient, the pain had left the stump.

The second case was that of a lad, aged 17, who had had his forearm amputated, and complained for the two years following the operation of severe pain and extreme tenderness, which prevented his wearing anything on the stump. At the outer angle of the stump, a neuroma was detected. An incision was made near to this, and a small nerve, probably the radial, was stretched. Unfortunately,

the nerve gave way close to the neuroma. The pain was immediately relieved, and up to the date of publication, many months afterwards, had not recurred.

A forgeman, aged 31, had been treated unsuccessfully during many weeks for a pain in the middle of the back of the left thigh, which pain had come on suddenly without any known cause. Beyond the pain, which was very severe, and quite incapacitated the man for work, there were no objective or subjective symptoms. The patient was easy when lying in bed, but any exertion or motion of the limb caused much distress. An incision having been made with antiseptic precautions, the sciatic nerve was exposed, lifted from its bed, and then thoroughly stretched, being pulled forcibly from above and from below. The wound healed in five days. The man was kept in bed for ten days, and suffered no pain. This happy result continued after he had been permitted to get up; and the man when last seen, eighteen months after the operation, was quite well, and able with a good and strong leg to resume his laborious occupation.

Mr. Bartleet considers nerve-stretching peculiarly fitted for those irregular and peculiar cases in which, being ignorant of the cause, we may the more justly employ an operation of the mode of action of which we are also ignorant. He would certainly, he states, employ this operation in cases of tetanus in which there seemed to be a strong probability of some nerve being torn or irritated by a foreign body. He would also employ it for those intractable cases of neuralgia, such as some cases of sciatica, in which no other remedial treatment has proved of any use, and in which it would, he thinks, be quite justifiable to perform an operation not dangerous in itself, not likely to make the patient worse, and which might, perchance, relieve the sufferer of the burden of a life-long affection.—*London Med. Record*, May 15, 1880.

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Nerve-Grafting.

At the recent Surgical Congress in Berlin, Herr GLUCK reported the results of some observations which he had made on the transplantation of nerves. His experiments had been performed on twelve common fowls, from the sciatic nerves of which he had removed portions three or four *centimetres* (0.12 to 0.16 inch) long, and substituted for them portions of the sciatic nerves of rabbits. At the end of eleven days, the conducting power of the nerves was found to be restored; irritation of the sciatic nerve above the transplanted portion (the nerve being carefully isolated) producing muscular contraction. The restoration of the conducting power occurred even when the position of the peripheral and central ends of the transplanted nerve were reversed, the latter being fastened by suture to the central end of the divided nerve in the fowl, and *vice versa*. In order that the result may be successful, union of the ends of the nerves by the first intention is indispensable. This, according both to the present and the former researches of Herr Gluck (described in Virchow's *Archiv*, Band 72), is a true regeneration, consisting in the development of ganglionic cells (neuroblasts) which, at the end of three days, have united the axis-cylinders of the central and peripheral portions, while the change of the rows of nerve-cells into young nerve-fibres sets in between the sixth and the eleventh day. Herr Gluck expressed the hope that his researches might prove to be of considerable practical value. He was able to show animals which, after the nerve-grafting, walked as well as others on which suture of nerves had been practised long before; while, on the other hand, fowls, from whose sciatic nerves large portions had been simply removed, still remained lame at the end of eight weeks.—*British Med. Journal*, May 1, 1880.

Midwifery and Gynæcology.

Retroversion of the Gravid Womb with Rupture of the Urinary Bladder and Death.

The patient, aged 40, had had four pregnancies, the last three years ago. She had been suffering some weeks with dysuria and dyschezia, and had consulted several medical men. When she was brought into the gynæcological ward at Halle, Dr. SCHWARZ found her in a critical condition. The abdomen was more enlarged than it would have been at the end of pregnancy. The legs were œdematous. On vaginal examination, the external genitals were found to be distended and œdematous. The pelvis was filled with an even round, elastic tumour. The vaginal portion of the uterus could not be felt. By the rectum the tumour was also clearly made out. The bladder was evacuated and the urine was seen to be opaque, dark, and mixed with blood-corpuscles. The next day, although but little hope was entertained of saving the patient, she was put under the influence of chloroform, and an attempt made to replace the uterus. It was, however, unsuccessful. The os uteri could only be reached by forcibly pushing the finger between the tumour and the symphysis pubis. The patient died the same evening. At the necropsy, Professor Ackermann found a large quantity of darkish, opaque, serous fluid in the abdomen. The stomach and small intestines were much distended by flatus. The whole large and small intestines were covered by a fibrinous membrane. The bladder was distended above the pubes to a height of 13 centimetres, and adherent by a piece of exudation of the size of half-a-crown to the neighbouring small intestine. On separating this a rent was discovered in the bladder about 3 centimetres (1.2 inches) in length. The uterus was firmly wedged under the sacral promontory. It measured 18 centimetres (7.2 inches) in length, and 15 (6 inches) in breadth. The contained embryo was of the male sex, and measured 22 centimetres (8.75 inches). The pregnancy was at about the fourth month and a half. Dr. Schwarz discusses the mode in which the rupture might have occurred in the bladder, but it is mere conjecture. For instance, he imagines an extravasation of blood in the wall of the bladder; this extravasated blood decomposes, a small abscess is formed, and perforation or rupture of the vesical wall results.—*London Med. Record*, May 15, 1880, from *Centralblatt für Gynakologie*, March 13, 1880.

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Causes of Occasional High Temperature after Aseptic Ovariotomy.

In a paper read at a recent meeting of the Metropolitan County Branch, British Medical Association (*British Med. Journal*, May 1, 1880), Mr. KNOWSLEY THORNTON advocated the use of the term aseptic as preferable to antiseptic, the latter indicating the means used, the former the actual result of properly using them. He believed that Listerism faithfully carried out in every detail enabled the surgeon to perform operations aseptically—always provided that he had aseptic cases on which to operate. Comparing the results obtained in his own practice of ovariotomy before and after the adoption of Lister's method, he found that his increased success, since he began to use Listerism, was out of all proportion both to his previous improvement and to that of the leading ovariotomists here and in America who did not use it. An analysis of the temperature-charts of all his cases done before, and of fifty done since, the adoption of Listerism, was then given; and among the occasional causes of high temperature were shown to be reaction, nervous temperament, metrostaxis from irritation of ovarian nerves, and

nerve-tension from too tight ligature of the pedicle. The more serious causes were congestion of the kidneys, deranged circulation from removal of a large tumour with little hemorrhage, local peritonitis, sweat rash, and failure in perfect aseptic operation.

Medical Jurisprudence and Toxicology.

Chronic Morphinism.

In the last number of *Brain*, Dr. OBERSTEINER, of Vienna, gives a description of the effects of the habitual use of morphia, as seen in Austria, which, valuable in itself, has an especial interest in connection with discussions as to the abuse of narcotics which have taken place in this country lately.

Chronic morphinism is, it seems, a vice which appertains peculiarly to the medical profession in Austria. Quite an incredible number of Dr. Obersteiner's colleagues have fallen victims to it; and he hints, not obscurely, that in his view there is poetical justice in the fact that this depraved and fatal taste should work most havoc amongst the class of men who, by carelessly prescribing the drug and instructing in the use of the hypodermic syringe, have been mainly instrumental in disseminating it.

A variety of circumstances and conditions lead up to the establishment of the morphia-craving. Most frequently, some painful ailment, such as toothache, periostitis, or sciatica, is the starting-point of the habit; but often some nervous symptom—insomnia, for example—or vomiting is its parent. The remedy first taken to allay pain, procure sleep, or tranquillize the system, is soon loved for its own sake, and becomes indispensable to common comfort. Then, again, mental troubles often determine the earliest resort to morphia. It is taken to soothe anxiety or to dull grief, which it is potent to do; for certain forms of melancholia, even of high intensity, are entirely dissipated by it; and then, when an attempt is made to discontinue it, the discovery is made that it has planted a worse grief than that which it eradicated. One curious instance of the modes of origin of the morphia-craving is narrated. It is that of a young physician who was incredulous as to the rapturous ease which a cancer patient alleged he had derived from morphia, and who took one dose himself as an experiment. That dose sealed his fate. It was like the taste of blood to the sleuth-hound, and at once awakened a ravenous appetite which he could never afterwards overcome.

The quantity of the drug taken by chronic morphinists varies within wide limits. Dr. Obersteiner has known as little as 3 *milligrammes* (= approximately the twentieth of a grain) daily suffice, without any increase, to maintain tranquillity in a lady who, whenever she was reduced to less than this little, became restless and sleepless. On the other hand, he has known as much as 3.5 *grammes* (= approximately 54 grains) taken daily and continuously for long periods. More than this quantity cannot, however, be taken by any one with impunity. The rule seems to be that, in most cases, more and more must be taken to keep up the full influence of the drug, but that a point is ultimately reached beyond which it is impossible to go. The morphinist generally finds out this point for himself, and acute poisoning by morphia is an exceedingly rare occurrence amongst those who are perpetually experiencing its chronic toxic effects.

The symptoms of morphinism are apparently pretty much in Austria what they

are in England, and are so well known that it is unnecessary to give any detailed account of them. Most prominent among them are disinclination to exertion, loss of appetite, hyperæsthesia, frequent yawning and sneezing, a peculiar ashy grayness of complexion, impotence, and general emaciation. On the psychical side are to be noted loss of memory, suicidal tendencies, and a moral deterioration comparable to what is seen in chronic alcoholism. Falsehood, which is first had recourse to in order to conceal or palliate the evil habit indulged in, soon pervades the whole mind, and the morphinist becomes the prolific father of lies upon all subjects, even when truth would serve as well.

The morphia-hunger, which comes on when fasting from the drug is enforced, is sometimes accompanied by explosive symptoms, such as mania, dangerous impulses (often involving the fast-compelling doctor), hallucinations of the senses, copious perspirations, and collapse. These follow alike its sudden and its gradual withdrawal, and, in the latter case, generally present themselves towards the end of the weaning period, when complete abstinence has been nearly reached. Where no explosive symptoms signalize the morphia-hunger, it is expressed in restlessness, sleeplessness, diarrhœa, and great debility, while the feelings that are associated with it are as distressing as those which depend on starvation and thirst. To relieve these feelings, wine in tolerably large amounts, the bromide of potassium, and warm baths are recommended. Packing in wet sheets is also said to be of service, and the subcutaneous injection of small quantities of any liquid free from morphia seems to have a delusively calmative effect on the enfeebled mind.

The prognosis in chronic morphinism is not, according to Dr. Obersteiner, so favourable as has been sometimes maintained. It is best when the habit has been of brief duration, and originated in some transient cause, and where the patient is of a vigorous constitution of body; it is worst when the habit has been long practised, when it sprang out of some incurable condition or often recurring pain, and when the patient is of the nervous temperament. Morphinism is peculiarly a neurotic vice, and it is neurotic subjects that fall into states of alarming excitement or weakness when reformation is attempted. With them, readministration of morphia is sometimes needful after its use had been broken off, to prevent serious consequences, amongst which are complete disintegration of the mind and abject despondency, ending in suicide. In all cases of morphinism, relapses are to be apprehended, and these sometimes take place when profuse gratitude is being expressed to the physician for his assistance in effecting a cure. Where relapses have happened, it is perhaps better to be content with a diminution in the amount taken than to insist on total abstinence.

Morphinism may be of medico-legal interest. The moral imbecility which accompanies it may bring the individual abandoned to it into collision with the law, though this is less likely to occur than in alcoholism, for the morphinist is more of a recluse than the beer-toper or spirit-drinker. The habit has not yet been admitted as a ground of irresponsibility; but, not long ago, a young man in Vienna advanced it as a plea on his own behalf. He was taken in the act of picking the pockets of two ladies simultaneously in a crowd; and his excuse was that, through taking morphia, his cerebral bloodvessels were congested and his ideas perverted. He offered to take a *gramme* (= 15 grains) of morphia at one dose, in order to prove that he was a morphinist, thus shadowing forth a new branch of experimental adjudicature. But, in course of observation by the police-surgeon, it became clear that he could not simulate the phenomena of morphia-hunger, and he was not, therefore, submitted to the hazardous test which he proposed, but was dealt with as a common thief.

A series of experiments which he performed on animals did not yield Dr. Obersteiner any very characteristic results. After injecting a number of rabbits with hydrochlorate of morphia daily, in gradually increasing doses, he observed that a habituation to it took place in rabbits as in man; and that, after its continuous use for long periods, there occurred in these animals weakness and loss of muscular tone, most marked in the hinder extremities, and also trophic affections of the skin. A sort of *alopecia areata* was set up; the hair began to fall out, particularly on the neck, so that the skin was denuded in patches. No permanent contraction of the pupils was noticed; the vessels of the ears were, shortly after the injection, contracted, but later became dilated. Except slightly increased reflex excitability, no effect of the sudden cessation of the use of morphia was observed in rabbits. During its administration, many of these animals died suddenly in convulsion, their brains being found swollen and œdematous.

An interesting paper on morphinism has also been published in No. 6 of the *Berliner Klinische Wochenschrift* for the present year, by Dr. E. Levinstein, Director of the Asylum at Schöneberg near Berlin; who, as is well known, has devoted much attention to the subject. Besides the various nervous changes and local affections (in the form of albuminuria) to which morphinists are liable, he describes a fever attending morphinism, which presents three varieties. The first, which has been described as morphia-intermittent, resembles ordinary malarial intermittent in being characterized by rigors, heat, and sweating, and generally considerable swelling of the spleen; the type is sometimes tertian, usually quotidian, sometimes irregular; and violent delirium may occur during the febrile paroxysms. In the second form, there are rigors every evening, followed by a sensation of heat with moderate rise of temperature, and thirst. The third form presents typhoid phenomena; viz., headache, buzzing in the ears, vertigo, slight fever, with a temperature of 38.3° Cent. (101° Fahr.), and paresis of accommodation; the patients are confined to bed for two or three weeks.

In the treatment, Dr. Levinstein has preferred the sudden withdrawal of the morphia. In order, however, to obviate the danger of collapse which attends this proceeding in some specially severe cases, he has adopted a modified plan, which consists in giving, twenty-four hours after the last large dose of morphia has been used, a considerably smaller quantity, varying from one-thirtieth to one-tenth of the former dose, and repeating it on the next two or three days; after which, injection has rarely been found necessary.

Dr. Levinstein has had under treatment for morphinism 82 men and 28 women. Of these, 32 were medical men, 8 medical men's wives, 7 persons connected with professional work or residing in medical practitioner's houses, 8 apothecaries, and 1 apothecary's wife. Of the 110 patients, 4 were also drunkards. Of the 82 men, 61 had relapses, and 10 out of the 28 women; of the 32 medical men, 28 returned to the habit, and so did all the apothecaries.

There were four deaths among the medical morphinists. Three died with the ordinary symptoms of morphia poisoning; and the fourth perished, after the treatment by withdrawal had been commenced, from secretly taking a large dose of morphia which he had previously borne well.—*British Med. Journal*, May 1, 1880.

MEDICAL NEWS.

American Medical Association.—The thirty-first annual meeting of the American Medical Association was held in the city of New York on June 1st, 2d, 3d, and 4th, Dr. Lewis A. Sayre, of New York, President, in the chair.

June 1st. The convention was called to order at 11 A. M., and, after prayer, an address of cordial welcome was delivered by Dr. T. Gaillard Thomas, Chairman of the Committee of Arrangements.

The Secretary read the list of names registered up to that time, 372 in number, which on motion was confirmed.

Protests were entered against the admission of delegates from the United States Navy, and against certain delegates from Allegheny County, which were referred to the Judicial Council.

Dr. Sayre then delivered the President's Address, which had for its text the celebrated apothegm of Sydney Smith, which served for the motto of the early numbers of the *Philadelphia Journal of the Medical and Physical Sciences.* "In the four quarters of the globe, who reads an American book? or goes to an American play? or looks upon an American picture or statue? What does the world yet owe to American physicians or surgeons?" The address closed with an advocacy of the abolition of the annual volume of Transactions and the substitution of a weekly medical journal to be published by the Association.

On motion of Dr. Brodie, of Michigan, the thanks of the Association were tendered to the President for his Address, and the Chair was directed to appoint a committee of five to report upon the recommendations which it contained. The President appointed as the committee, Drs. Chaillé, of La., S. D. Gross, of Phila., J. S. Weatherley, of Ala., J. R. Bronson, of Mass., and W. R. Gillette, of New York.

Dr. S. D. Gross, of Phila., moved that the Association tender to its President, and, through him, to the family, its warmest sympathy in their sad bereavement by the death of Dr. Charles H. H. Sayre. Adopted.

Dr. E. Seguin, of New York, presented the report of the foreign delegation on the progress of medical international uniformity.

Dr. Austin Flint, Chairman of the Committee on Prize Essays, reported that the Committee did not feel warranted in awarding a prize to the single essay presented.

June 2d. Dr. A. L. Gihon, U. S. N., brought up the question of the admission of the delegation from the U. S. Navy, which provoked considerable discussion. Dr. S. D. Gross, of Phila., moved that, as the Judicial Council stated that no charges preferred against the delegation from the U. S. Navy had been authenticated, the delegation be admitted. Carried.

Dr. Benham, of Penna., of the Judicial Council, reported concerning the matter of the Allen County Medical Society, Indiana, referring the questions to the State Medical Society for adjudication.

The Committee on Nominations was then announced.

Dr. Pratt, of Mich., reported from the Committee appointed last year to consider the propositions submitted by Dr. Chaillé, of La. (see Trans. Am. Med. Assoc., 1879, p. 51), adversely to all the propositions except the fourth, which contemplated substituting a medical journal for the present volume of Transactions. On that proposition the Committee expressed the opinion that it was safer to await the law of growth than to adopt any radical change at present.

Dr. J. S. Lynch, of Baltimore, Chairman of the Section on the Practice of Medicine, then delivered his address, which was followed by that of Dr. W. T. Briggs, of Nashville, Chairman of the Section on Surgery and Anatomy.

The Association then adopted the following amendment in reference to Prize Essays and the Committee on Prize Essays, as an addition to Section II. of the By-laws.

a. There shall be four annual prizes of two hundred and fifty dollars each, which shall be awarded at the close of the second year after announcement, as hereinafter explained, for strictly original contributions to medical and surgical progress.

b. It shall be the duty of the Chairman of each of the following four Sections: 1. Practical Medicine, Materia Medica, and Physiology; 2. Obstetrics and Diseases of Women and Children; 3. Surgery and Anatomy; 4. State Medicine and Public Hygiene, to appoint annually, before the adjournment of the meeting of the Association, three members of ability and good judgment who shall constitute a Committee of Selection, and who shall, within thirty days thereafter, select and publicly announce for competitive investigation and report, a subject belonging to one or other of the branches of medicine included in the title of the Section.

c. It shall also be the duty of the Chairman of each of the Sections mentioned to appoint annually a Committee of Award, consisting of three experts, who shall carefully examine the essays offered for competitive examination, and if any one shall be found worthy of the prize as a substantial contribution to medical knowledge, to recommend the same to the Association.

d. All essays placed by their authors for competition shall be in the hands of the Chairman of the respective Committees of Award on or before the first day of January preceding the meeting of the Association at which the reports of the committee are required to be made.

e. All Prize Essays shall be considered as the property of the Association.

f. The names of the authors of the competing essays shall be kept secret from the committees by such means as the latter may provide.

g. Membership in either of the two committees shall not debar from membership in the other; nor shall membership in the Committee of Selection exclude a member from the privilege of offering a competing essay.

June 3d. Dr. W. O. Baldwin, of Ala., Chairman of the Committee on Nominations, presented the following report: *President*, John T. Hodgen, M.D., of St. Louis. *Vice-Presidents*, Drs. W. H. Anderson, of Ala., Levi G. Hill, of New Hampshire, Henry T. Holton, of Vermont, and H. Carpenter, of Oregon. *Permanent Secretary*, Dr. W. B. Atkinson, of Penna. *Treasurer*, R. J. Dunglison, M.D., of Penna. *Librarian*, Wm. Lee, M.D., of D. C.

Chairman of Section on Practice of Medicine, Dr. Charles Denison, of Colorado. *On Surgery*, Dr. Hunter McGuire, of Virginia. *On Obstetrics*, Dr. Jas. R. Chadwick, of Mass. *On Medical Jurisprudence*, Dr. J. T. Reeve, of Wis. *On Ophthalmology*, Dr. D. S. Reynolds, of Ky.

Members of Judicial Council, Drs. J. K. Bartlett, of Wis., F. Staples, of Minn., D. R. Wallace, of Texas, J. G. Thomas, of Ga., J. S. Billings, of U.S.A., J. H. Warren, of Mass., and A. T. Woodward, of Vt.

The Committee recommended that the next meeting be held in Richmond, Va., on the first Tuesday in May, 1881. The report was unanimously adopted.

Dr. Chas. Denison, of Col., offered his resignation as Chairman of Section on Practice of Medicine, which was adopted and referred to the Committee on Nominations.

Dr. Bronson, of Mass., offered the following preamble and resolution, which were adopted.

Whereas, The published proceedings of various sections of the Association do

not receive the practical expression desired, and do not represent the labours of its members: and whereas, the members of the Association have long felt that the present mode of introducing the Transactions to the profession has been unsatisfactory to all concerned in the advancement of medical science; therefore be it

Resolved, That a committee of five be appointed by the Chair to report at the next session regarding the practicability of formulating all the proceedings in journalistic form, as recommended by the President in his Annual Address.

Under this resolution the President appointed the following Committee: Drs. W. W. Dawson, of Ohio, J. R. Bronson, of Mass., W. H. Pancoast, of Penna., N. C. Husted, of N. Y., and J. S. Green, of N. J.

Dr. J. S. Billings, of U. S. A., reported that Congress had made provisions for the publication of the Catalogue of the Library of the Surgeon-General's Office, of which the first volume would be published in July, 1880, and the second probably in July, 1881.

The following amendments to the Constitution, proposed by Dr. J. H. Rauch, of Illinois, were adopted: Article II., second paragraph, after "Army and Navy" insert, "and the Marine-Hospital service of the United States." Fourth paragraph, at the end, insert, "The Marine-Hospital service of the United States shall be entitled to one delegate."

Dr. S. C. Busey, of D. C., offered an amendment to the By-laws, making provision for a new section to be designated Section VI., Diseases of Children. Adopted and referred to the Committee on Nominations.

The Metric Executive Committee presented a report.

The Judicial Council presented the following:—

Whereas, A protest without signature, against the registration of the delegates from the Medical Staff of the U. S. Navy, and unaccompanied by charges, had been placed in the hands of the Judicial Council, therefore be it

Resolved, That the protest against the registration of delegates from the Medical Department of the United States Navy is not sustained, and therefore there was no cause for action thereon. Adopted.

Resolved, That the Hannibal Medical Society of Missouri is not entitled to representation in the American Medical Association, because it is not in affiliation with its own State Medical Society. The protest therefore was sustained.

Dr. James F. Hibberd, of Ind., Chairman of the Section on Medical Jurisprudence, then delivered his address.

Dr. J. M. Toner, of Washington, D. C., presented the report of the Committee on Necrology.

The President announced the following appointments: Delegates to the Canada Medical Association, Drs. C. N. Bush, of New York; James R. Leaming, of New York; D. H. Goodwillie, of New York; Wm. Brodie, of Michigan; and W. B. Ulrich, of Pennsylvania. Delegates to European Medical Societies, Drs. R. B. Cole, of California; Benj. Lee, of Pennsylvania; M. A. Pallen, of New York; and L. D. Bulkley, of New York.

The report of the Librarian was then read. The library contains 3258 volumes, and $200 was voted to defray its expenses.

June 4. A communication from Dr. F. Horner, Jr., inclosing a resolution of the State Medical Society of Virginia, instructing its delegation to ask the Association to take the necessary steps for establishing a mutual aid association was received and referred.

A communication from the Philadelphia County Medical Society, concerning the abuse of medical charities, was received and referred to a special committee appointed by the chair as follows: Drs. Benj. Lee, of Pennsylvania; H. G. Piffard, of New York; S. W. Gross, of Pennsylvania; and J. W. Green.

Dr. A. L. Carroll, of New York, offered the following:—

Whereas, The New York County Medical Society has admitted to membership graduates of schools not recognized by this Association, therefore be it

Resolved, That societies which admit irregular practitioners to membership be debarred from representation in the American Medical Association. Referred to the Judicial Council.

The Treasurer's report was then read, and shows receipts of $5025, and a balance on hand of $579.59.

The Committee on Publication presented a report.

Dr. Pratt, of Michigan, moved a resolution instructing the Committee of Arrangements to publish one programme of the work to be done in general session at the next annual meeting during the whole four days, instead of a daily programme. Adopted.

The Committee on Nominations presented the following additional report: *Assistant Secretary*, Dr. J. G. Cabell, of Virginia. *Committee of Arrangements*, Drs. F. D. Cunningham, Hunter McGuire, and Cullen, of Richmond, Va., with power to enlarge their number to seven. *Committee of Publication*, Drs. W. B. Atkinson, T. M. Drysdale, Wm. Lee, R. J. Dunglison, Alfred Fricke, S. D. Gross, and Caspar Wister. *Chairman of Section on Practice of Medicine*, Dr. William Pepper, of Pennsylvania. *Chairman of Section on Diseases of Children*, Dr. A. Jacobi, of New York.

Dr. H. G. Piffard, of New York, moved that the Richmond County (N. Y.) Medical Society, which has members who have been irregular practitioners of medicine, be debarred from representation in the American Medical Association. Referred to the Judicial Council.

Dr. Brodie, of Michigan, then offered the usual resolutions of thanks.

On motion of Dr. Marcy, of Massachusetts, a donation of $1000 out of the funds of the Association was granted to Dr. Wm. B. Atkinson, the Permanent Secretary.

Dr. J. F. Hibberd, of Indiana, Chairman of the Section on Medical Jurisprudence and State Medicine, offered resolutions endorsing the National Board of Health; recommending Medical schools to establish a Chair of State Medicine as part of the regular curriculum; and that the name of the Section shall be hereafter "Section on State Medicine." Adopted.

Dr. John S. Hodgen, of St. Louis, President-elect, was then introduced to the Association.

A vote of thanks to Dr. Sayre for the ability and courtesy with which he had presided over the meetings was passed, and, after a suitable response by Dr. Sayre, the Association adjourned, to meet at Richmond, Va., on the first Tuesday in May, 1881.

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American Laryngological Society.—The second annual meeting of this Society was held in New York, May 31st and June 1st and 2d. In the absence from the country of the President, Dr. Elsberg, Dr. J. Solis Cohen, of Philadelphia, was called to the chair. A number of interesting papers were read and intelligently discussed. The following officers were elected for the ensuing year: President, Dr. J. Solis Cohen, of Phila.; Vice-Presidents, Dr. W. C. Glasgow, of St. Louis, and J. D. Roe, of Rochester; Secretary and Treasurer, Dr. G. M. Lefferts, of New York. The next meeting will be held in Philadelphia in 1881.

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Association of American Medical Editors met in New York May 31st, Vice-President Dr. Frank Woodbury, of Phila., Assistant Editor of *Boston Medical*

and Surgical Journal, presiding, in the absence of Dr. Powell, of Atlanta. The following officers were elected for the ensuing year: President, Dr. Geo. F. Shrady, of *Medical Record;* Vice-President, Dr. R. S. Nelson, of the *St. Louis Courier of Medicine;* Secretary, Dr. D. S. Reynolds, of the Louisville *Medical Herald.*

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Connecticut Medical Society met in eighty-ninth annual convention, at New Haven, May 26th and 27th, Dr. A. R. Goodrich, President, in the chair. The following office-bearers were elected for the ensuing year: President, G. L. Platt, of Waterbury; Vice-President, M. Deming, of Litchfield; Secretary, C. W. Chamberlain, of Hartford.

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Georgia Medical Association held its annual meeting at Augusta on the 21st of April, Prof. Joseph Eve, President, in the chair. The following officers were elected for the ensuing year: President, J. C. Le Hardy, M.D., of Savannah; Vice-Presidents, Drs. E. W. Alfriend, of Albany, and W. B. Wells, of Red Clay; Secretary, Dr. James B. Baird, of Atlanta.

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Massachusetts Medical Society.—The ninety-ninth annual meeting of this Society was held at Boston June 9th, President, Dr. George H. Lyman, of Boston, in the chair. The following officers were elected for the ensuing centennial year: President, Dr. Henry W. Williams, of Boston; Vice-President, Dr. Asa Millett, of Bridgewater; Orator, Dr. J. Collins Warren, of Boston; Anniversary Chairman, Dr. James C. White, of Boston. The ensuing centennial meeting will be held in Boston on the second Wednesday in June, 1881.

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Michigan State Medical Society.—The fifteenth annual meeting of this Society was held at Grand Rapids May 12th, Dr. George K. Johnson, of Grand Rapids, President, in the chair. A number of interesting papers were read, and the Society evinced its interest in the efforts to advance the standard of medical education by the adoption of the following preamble and resolution:—

Whereas, The State Medical Society of Michigan views with gratification the evidences that its labours for a more elevated standard of medical education have not been without reward, in the fact that all the medical schools of the State have made a preliminary examination and a three-term graded course a requisite for graduation; therefore

Resolved, That we, the members of the State Medical Society, pledge ourselves, individually and collectively, to support only such schools as require for admission a thorough preliminary examination, and for graduation at least a three-term graded course of lectures in three years of study; and that we will use our influence to prevent students from attending any college with an inferiority of preparation and graduation.

The following officers were elected for the ensuing year: President, J. R. Thomas, M.D., of Bay City; Vice-Presidents, Drs. E. P. Christian, of Wyandotte; J. W. Hagadorn, of Milford; C. J. Lundy, of Detroit; J. H. Bennett, of Coldwater; Secretary, G. E. Ranney, of Lansing. The next meeting will be held at Bay City on the second Wednesday in June, 1881.

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Medical Society of North Carolina.—The twenty-seventh annual meeting of this Society was held at Wilmington, May 11th, 12th, and 13th, Dr. J. F. Shaffner, of Salem, President, in the chair. The following office-bearers were elected for the ensuing year: President, Dr. Richard B. Haywood, of Raleigh; Vice-Presidents, Drs. J. A. McRae, of Fayettesville; W. H. Lilly, of Concord; R. H. Speight, of Tarborough; and W. J. H. Bellamy, of Wilmington; Secretary, Dr. D. L. Julian Picöt, of Littleton.

The Pennsylvania State Medical Society held its thirty-first annual meeting at Altoona, May 19th, 20th, and 21st, Dr. Andrew Nebinger, of Phila., President, in the chair. Dr. J. L. Carpenter, of Pottsville, delivered the address in Obstetrics; Dr. J. H. Packard, of Phila., the address in Surgery; Dr. I. N. Kerlin, of Del. Co., the address in Mental Disorders; and Dr. Benj. Lee, of Phila., the address in Hygiene. The following officers were elected for the ensuing year: President, Dr. J. L. Carpenter, of Schuylkill County; Vice-Presidents, Drs. Thomas Lyon, of Lycoming; William Varian, of Crawford; C. A. Rahter, of Dauphin; and M. R. Cowden, of Butler; Recording Secretary, Alexander Craig, of Lancaster. The next meeting will be held at Lancaster on the second Wednesday of May, 1881.

American Ophthalmological Society will hold its annual meeting at Newport on the 22d of July.

International Otological Congress.—The second International Otological Congress will be held at Milan, Italy, from Sept. 6th to 9th, of this year. Prof. Voltolini, of Breslau, is President of the Committee of Arrangements.

British Medical Association.—The forty-eighth annual meeting of the British Medical Association will be held at Cambridge, August 13, 1880, under the presidency of Dr. G. M. Humphry, Professor of Anatomy in the University of Cambridge. The address in Medicine will be delivered by Dr. J. B. Bradbury; the address in Surgery by Mr. Timothy Holmes; and the address in Physiology by Dr. Michael Foster.

New York State Board of Health.—This Board has just been organized, under a law passed by the last Legislature, by the election of Dr. E. M. Moore, of Rochester, President, and Dr. Elisha Harris, of New York, Secretary.

Death under Bromide of Ethyl.—A case of this occurred on the 26th of May in the clinic of Dr. Levis at the Jefferson College Hospital in this city. The patient was eighteen years of age, and had a vesical calculus; he was greatly prostrated; and suddenly died after inhaling about a drachm of the anæsthetic, and after the first incision in the operation of lithotomy had been made. Artificial respiration was unavailing. Upon post-mortem examination the brain, heart, lungs, and kidneys were reported to have been greatly diseased.

Literary Notes.

D. Appleton & Co. announce "a Practical Treatise on Tumours of the Mammary Gland," by Dr. S. W. Gross, and have in preparation a work on the "Science and Art of Midwifery," by Dr. Wm. T. Lusk, of New York; a "Treatise on Insanity," by Dr. Wm. A. Hammond, and a translation of Fournier's "Syphilis and Marriage."

Smith, Elder, & Co., of London, have just published a small volume on "Antiseptic Surgery," by Mr. MacCormac, of St. Thomas's Hospital.

J. & A. Churchill have also published Morell Mackenzie's "Manual of Diseases of the Throat and Nose. Vol. I., Diseases of Pharynx, Larynx, and Trachea," and have in press a volume "On Chronic Atrophy of the Stomach, and on Nervous Disorders of the Digestive Organs," by Dr. Samuel Fenwick, Assist. Phys. to the London Hospital. They also announce that Dr. Thomas Buzzard is preparing for publication some "Clinical Lectures on Diseases of the Spinal Cord."

Dr. Thomas Radford, of Manchester, is engaged on a second edition of his "Record of Cæsarean Sections in Great Britain."

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